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California's Computer Magazine

FEB. 1988 • ISSUE 40

MICROTIMES™

AMIGA RETURNS

- New Directions At Commodore:
  Exclusive Interview With Commodore President Max Toy
- Plus: Music On The Amiga

But Jan Lewis Says:
Good Times Ahead For Micro Industry

Max Toy
Of Commodore

SPECIAL SECTION

Mac @ Work

- 4th Dimension Database
- Stepping Out Screen Extender
- New Macintosh Products

How to tell the difference between DESQview™ 2.0 and any other environment.

Selecting DESQview, the environment of choice, can give you the productivity and power you crave, without the loss of your old programs and hardware. If you like your existing programs, want to use them together, transfer data between them, print, sort, communicate with or process-in-background, yet still have the need to keep in place your favorite PC(8088, 8086, 80286 or 80386), DESQview is the "proven true" multitasking, multi-windowing environment for you. Best of all, DESQview 2.0 is here now, with all the money saving, time saving, and productivity features that others can only promise for the all-too-distant future.

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"Best PC Environment" by popular vote at Comdex Fall in PC Tech Journal's "System Builder" Contest.

"—I wouldn't want to run an IBM or compatible computer without DESQview"—InfoWorld, Michael Miller.

"A colossus among windowing environments"... "will run almost anything"—PC Week, Marvin Bryan.

"Windows, promises, but DESQview delivers"—MICROTIMES, Birrell Walsh.

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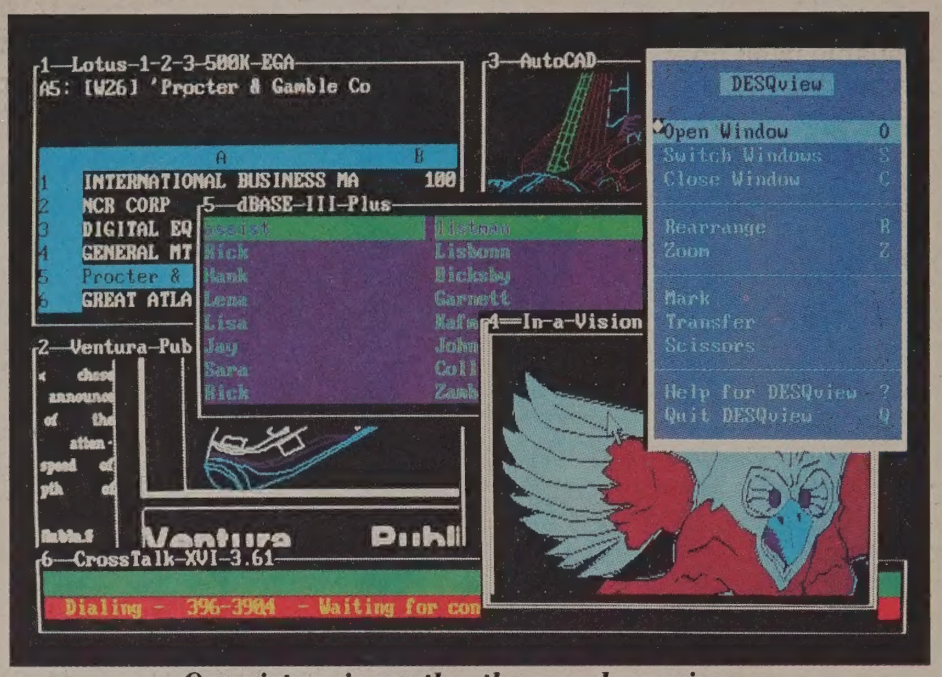
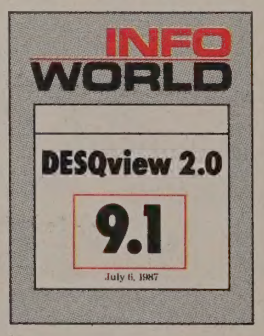


One picture is worth a thousand promises.



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PC MAGAZINE EDITOR'S CHOICE NOV. 24, 1987

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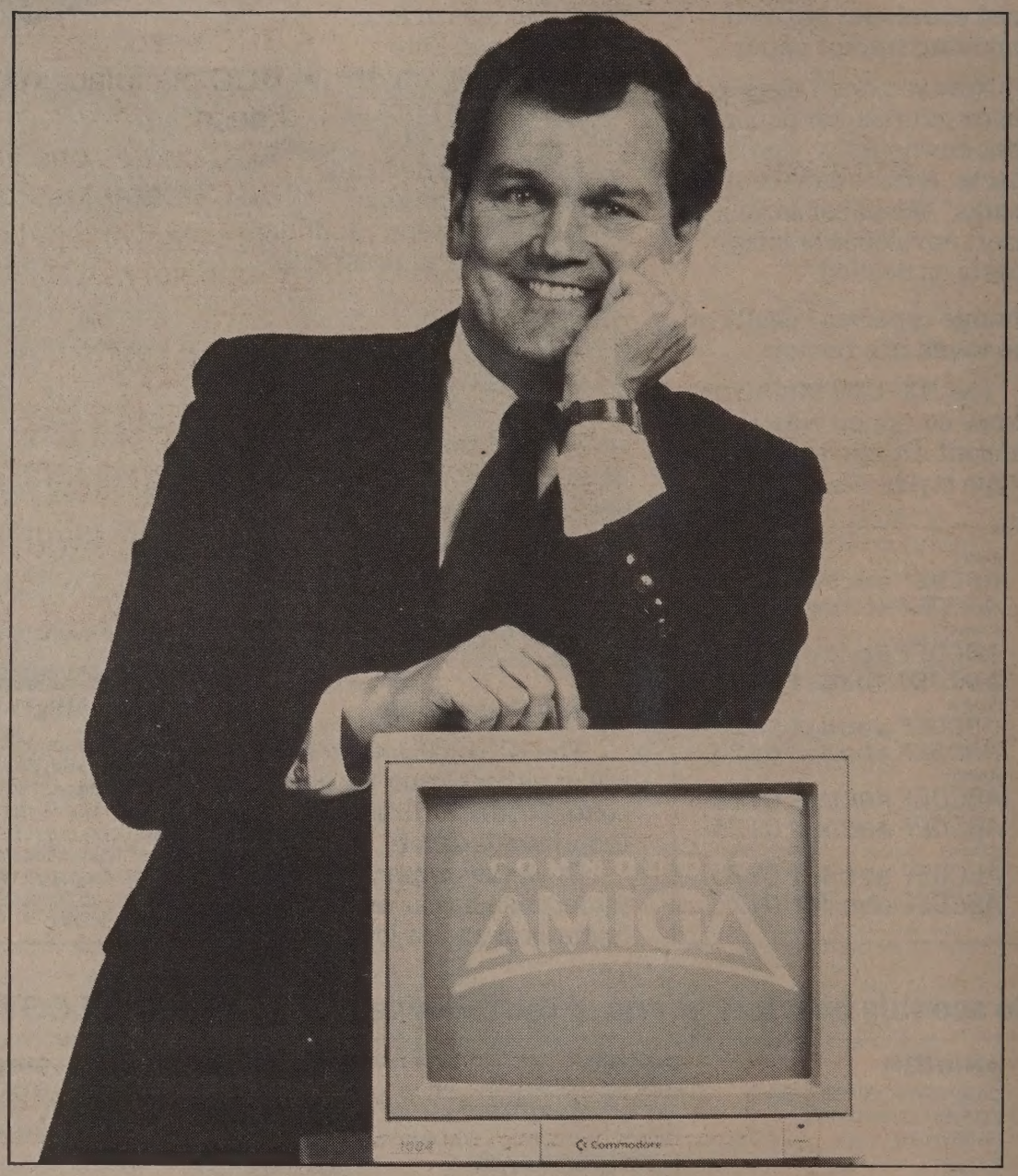

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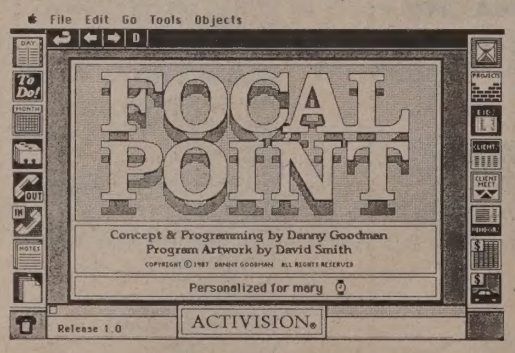

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New hardware, software and books to improve your Macintosh productivity.

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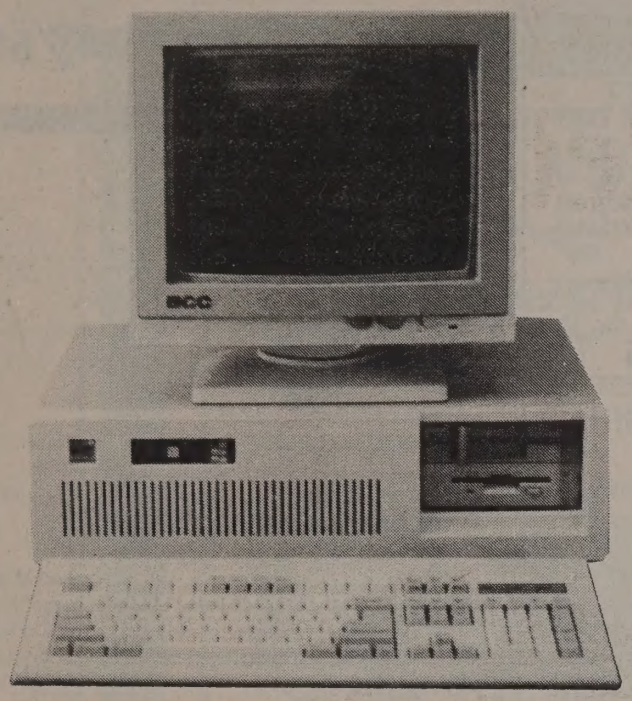

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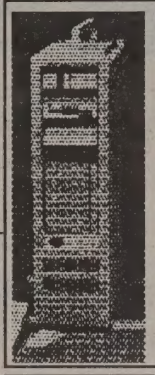

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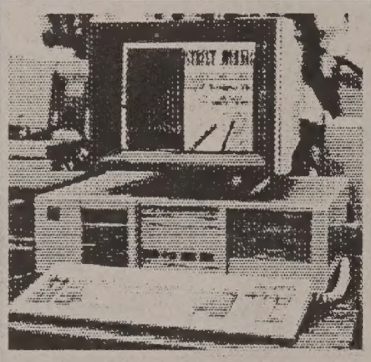

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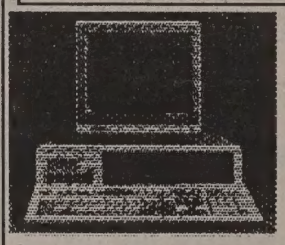

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ASSISTANT ART DIRECTOR Michael P. Didier
ART STAFF Mary Beth DeSantis, Tim Levin, Lisa Lusk, Missy Mote, Heidi Sommer, Deborah Venezia
CAMERA OPERATOR John Moorehead
NEWS EDITOR Paul Hoffman
CONTRIBUTING EDITORS Robert D. Athey, Jr., Bennett Falk, Helmi Kobler, Matthew Leeds, Michael Markowitz, Brock Meeks, Ken Milburn, Warren Sirota, Jeff Spurrier
CONTRIBUTING WRITERS Sue Albert, Lenny Bailes, Martha Conway, Kristen R. Coston, Bruce A. Fraser, Patricia Lesser, Woody Liswood, Ben Means, Jean Means, Nancy Mulvany, Aubrey Pilgrim, Sharon Rufener, Birrell Walsh, Stephan Wickham, Jim Wolcott, Wayne A. Yacco
CONTRIBUTING PHOTOGRAPHERS Marc Franklin, Ken James, Pat Johnson, Ann Summa
EDITORIAL CONSULTANTS Don Hamilton, Pat Hamilton
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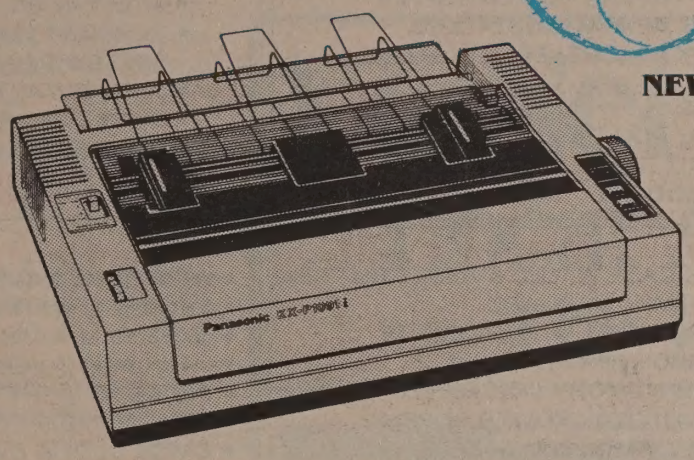

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January 6 Congressman Henry J. Hyde Addresses The Valley Forum. Brookside Country Club, Pasadena. Contact TriCity Business, 750 East Green Street, Suite 340, Pasadena, CA 91101. (818) 796-8886.

January 11–12 Networking IBM & Compatible PCs. Los Angeles, CA. Two Day Seminar. Contact Quest at (201) 251-3217.

January 16–18 AmiEXPO. Westin Bonaventure, Los Angeles. Call Dave Glassman at (800) 322-6442 for information.

January 23 Computer Swap Meet. Orange County Fairgrounds, Costa Mesa. Call RK Productions at (800) 252-7927 for information.

January 23 San Fernando Valley Computer Swap. California State University, Northridge, North Campus. Contact Microshows (800) 433-7469.

January 25–27 The Desktop Communications Conference. Marriott Hotel, Anaheim. Contact Infonetics at (408) 746-2500.

January 30 Computer Swap Meet. LA County Fairgrounds, Pomona. Call RK Productions at (800) 252-7927 for information.

January 30 Anaheim Computer Swap. Anaheim Convention Center, Anaheim. Contact Microshows (800) 433-7469.

February 6 Computer Swap. San Diego County Fairgrounds, Del Mar. Call RK Productions at (800) 252-7927 for information.

February 8–10 International Conference On Computers And Law. The Miramar Sheraton Hotel, Santa Monica. Contact Michael M. Krieger, ICCL88, P.O. Box 24619, Los Angeles, CA 90024. (213) 208-2461.

February 9–11. SBT Computerized Accounting Software Seminars. Los Angeles. Call (415) 331-9900 for information.

February 10 CD ROM Developers Seminar '88. Hyatt at LAX, Los Angeles. Contact Meridian Data, 4450 Capitola Rd., Suite 101, Capitola, CA 95010. (408) 476-8908.

February 16–18 International Superconducter Applications Convention. LAX Hilton Hotel/ Pacific Conference Center. Contact SCAA, 24781 Camino Villa Ave., El Toro, CA 92630. (714) 586-8727.

February 23–26 Adam Green's dBASE Seminars. Los Angeles. Contact Digital Consulting, Inc., 6 Windsor Street, Andover, MA 01810. (617) 470-3880.

*As a community service, **MicroTimes** lists trade shows, seminars, and other special events in the Calendar of Events free of charge on a space-available basis. To improve the likelihood of your listing's timely inclusion, please make sure we have the necessary information no later than the first of the month, two months before the cover date of the issue in which you'd like it to appear (i.e. the deadline for the March issue, distributed during February, is January 1). Send to: MicroTimes Calendar of Events, 5951 Canning St., Oakland, CA 94609.*

News about user group meetings and other regularly scheduled activities should be sent to User Group Network at the same address.

March 28–31 World Congress On Computing. McCormick Place, Chicago, IL. Contact The Interface Group, 300 First Ave., Needham, MA 02194. (617) 449-6600.

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May 9–12 COMDEX. World Congress Center, Atlanta, GA. Contact The Interface Group, 300 First Ave., Needham, MA 02194. (617) 449-6600.

May 31–June 3 National Computer Exposition/ Conference. Los Angeles Convention Center. Contact NCE/NCC '88, Suite 500, Chicago, IL. (312) 222-0198.

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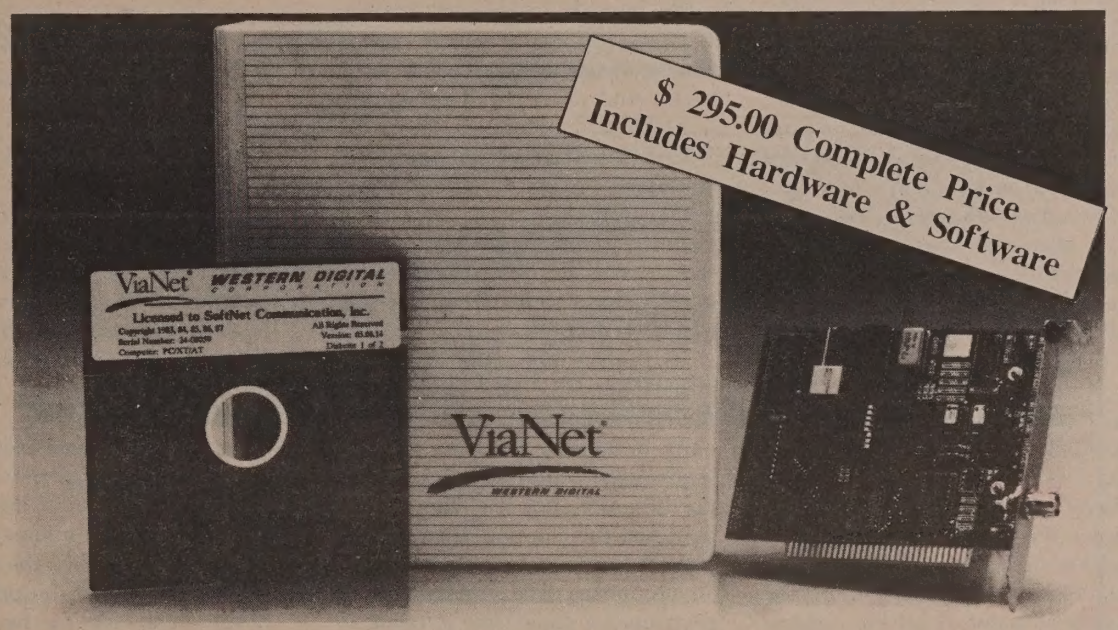

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BUT JAN LEWIS SAYS . . .

COMDEX Indicates Good Times Ahead

It was the best of times, it was the worst of times. It was COMDEX 1987.

All indicators of the health of the personal computer industry were up. Fall COMDEX, the bellwether of the industry, enjoyed record attendance. All leading players in both hardware and software were reporting higher revenues and higher earnings — some at near-record levels.

Yet all this occurred just a couple of weeks after what is being called the Stock Market Crash. Now, whether it really was a crash, or just a major correction, is debatable, but it certainly was the largest stock market decline in U.S. history. Of course, some would argue that once the Dow Jones hit over 2000, it was pure speculation, and that the drop in the Dow to a trading range of 1800-2000 was a necessary correction. Price-earnings ratios of 60 to 1 are vaporware, regardless of what you're shipping! But the bottom line is that we had the largest drop ever in the history of the stock market.

To top it off, Las Vegas was experiencing a fluke rainstorm and flood. Las Vegas is a city with no drainage, and a two-day rainstorm cripples the city. It was impossible for taxi or pedestrian to go anywhere in Las Vegas without being immersed in pools of water. (I get the impression that when they built Las Vegas, the builders looked around and said, "Do you think it's going to rain?" "Nah," said someone else, "this is the desert. We don't need a drainage system here.")

Meanwhile, back on the COMDEX show floor, signs were everywhere that the industry slump was over. Attendance hit nearly 100,000, a COMDEX first. Not only that, the rebirth of the industry seemed to cut across all segments. It was not "The COMDEX of..." anything particular, the way past COMDEXes were: there was a feeling of growth and optimism across the board.

Several trends were evident. While it was at COMDEX a year ago that the first machines based on the Intel 80386 were announced in large numbers, at this COMDEX it became clear that the 386-based computer would be the mainstream corporate PC. Between the price wars on the 386s from clone manufacturers and the availability of add-on boards that would turn your AT or even your XT into a 386 machine, it was starting to look like the 80286 AT was an interim step.

This trend was reinforced by the growing awareness that Intel had fumbled the 286, making several mistakes that it fixed in the 386. The result is that the 286 machines, including ATs and AT clones, would have limitations that were corrected with the 386 machines.

The average desktop 386 machine was now running at a clock speed of 20 megahertz instead of 16 megahertz. And even laptops were now available with 386 CPUs. GRiD, NEC, Toshiba, and Datavue all announced 386-based laptops.

The influence of the PS/2 family from IBM was also evident. Western Digital offered a chip set that was allegedly compatible with IBM's Micro Channel Architechture. This claim was certainly met with much skepticism. After all, IBM has patents up the gazoo on this thing, and the company is making loud noises about vigorously defending its patents. Furthermore, it's way too early to field test the compatibility of Micro Channel Architecture clones, so this area promises to be clouded with uncertainty for some time to come.

AST Research took a different approach. It introduced what it calls the SmartSLOT, which allegedly achieves the functionality of IBM's Micro Channel Architecture without promising compatibility.

OS/2 was probably the most talked-about piece of vaporware at the show. IBM held a press conference to announce that it would ship the basic version of OS/2 in December of this year. Nevertheless, it is clear that IBM's position has been hurt by the delay of several years in shipping its new operating system. The confusion over "standards" or lack of them in the IBM marketplace has opened doors to other vendors, especially Compaq and Apple. As of even a year ago, if a buyer didn't want to make a decision, he would buy IBM with its PC-DOS version of MS-DOS. It was the easy choice. But nowadays, even IBM doesn't represent an easy choice. Between MS-DOS, Windows/386, Lotus-Intel-Microsoft's EMS 4.0, OS/2, and OS/2 Extended Editions, there are no easy choices.

Nowadays, even IBM doesn't represent an easy choice. Between MS-DOS, Windows/386, Lotus-Intel-Microsoft's EMS 4.0, OS/2, and OS/2 Extended Editions, there are no easy choices.

A year ago, major corporate buyers intended to buy IBM personal computers and OS/2. By this year, large corporate buyers had changed their attitude. "We'll buy OS/2 when we need to, and not before" was the prevalent attitude.

Perhaps the most exciting trend was the continued downward momentum in prices of laser printers. There are two components to laser printer prices today: the price of the printer itself, and the price of PostScript. PostScript has become the de facto standard for Page Description Language — the software that prepares output for the printer itself. Both of those components are experiencing downward pressure. Due to competition and volume, the basic printer mechanism is becoming cheaper, while attributes such as pages per minute, duty cycle, and printer memory are becoming richer.

More surprising, though, is the price movement in the PostScript component. The sole vendor of PostScript is Adobe, and Adobe has kept the price high. Since Adobe sells to printer manufacturers, and since the manufacturer and the distribution channels need to mark up that price by a factor of three to five times, the consumer can easily end up spending more than $1,000 just for the PostScript component of the printer. Well, relief is in sight. Several companies, including Control-C and Phoenix Software (the makers of IBM compatible ROM BIOS among other things) have produced clones of PostScript. While some time is needed to fully test the compatibility of these PostScript clones, this holds great promise for the price of laser printers.

Several other developments in the desktop publishing area were exciting as well. QMS, the maker of the KISS laser printer family, was showing a color version of PostScript. Color monitors and color laser printers had a high profile at this COMDEX. Lightspeed, a company which had previously produced color desktop publishing systems on costly Sun computers, was showing its impressive software running on a Macintosh II at the Apple booth. Additionally, companies such as Upstart Corporation and Bitstream showed products which produced true WYSIWYG (What-you-see-is-what-you-get). Despite the claim that nearly every vendor makes, most desktop publishing systems are *not* true WYSIWYG, a failing which can prove very annoying to anyone using a desktop publishing system.

So, while the rest of the world remembers the boom times of 1984 through 1987, the computer industry will remember the worst slump in its history. And while the rest of the world remembers the crash of 1987, the personal computer industry will remember the resurgence of 1987. Judging from the excitement and products at COMDEX, we're in for some exciting times in personal computing. □

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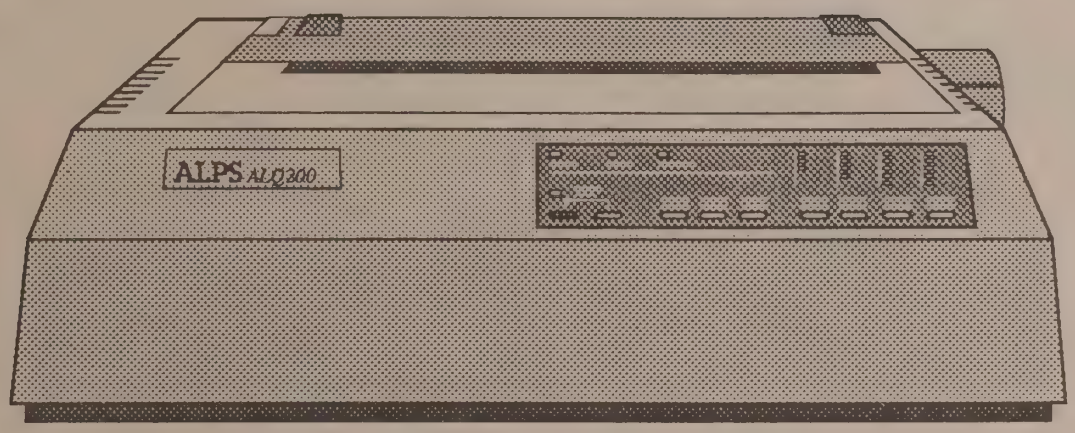

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By Paul Hoffman

Microrim Announces New SQL Version of R:BASE for MS-DOS and OS/2

Heating up the race for the SQL database market, Microrim announced the next version of *R:BASE* for both MS-DOS and OS/2. The OS/2 announcement was one of the first official announcements of a major OS/2 product, and is sure to put Microrim in a good position for competing with IBM's Extended Edition. Microrim has long been considered the leading competitor for Ashton-Tate's *dBASE III*, and the new announcement will boost Microrim's exposure in companies that intend to convert early to OS/2. Both the MS-DOS and OS/2 versions will be available in the first quarter of 1988.

"Our OS/2 version is already running 20% – 30% faster than the MS-DOS version, and we are really happy with the performance improvements we are seeing with OS/2," said Fred Gray, vice president for research and development. "The virtual memory is really going to come through for OS/2 users." The MS-DOS version now supports the Lotus-Intel-Microsoft Expanded Memory Specification, so it too can take advantage of extra RAM memory available. Both versions will be able to exchange data, and will also be able to read data from earlier versions of *R:BASE*.

Although the MS-DOS version of the new *R:BASE* will be available first, the OS/2 version will follow shortly after. When asked why the OS/2 version would be later than the MS-DOS version, Gray replied, "IBM released OS/2 sooner than anyone expected." He said that although development was progressing well, Microrim began working faster when IBM announced at COMDEX that it would begin shipping OS/2 on December 4 (which it did).

R:BASE will fully support multitasking under OS/2, according to Gray. You can run a large report in one partition and continue to update the data base in another. Unlike some OS/2 programs previewed at COMDEX, *R:BASE* will allow you to run the program in each partition. Without this, you could only perform one *R:BASE* task at a time. With full partition support, however, you can run *R:BASE* once, perform a long sort, and start it again while the sort is still running. *R:BASE* has full concurrency control and automatic or explicit locking of data.

Many database manufacturers have adopted SQL due to both its popularity and IBM's announcement that it will be the data language used in its forthcoming OS/2 Extended Edition. The extended edition will only be available to people running IBM computers, and many large corporations bought both IBM PCs and clones. These corporations will be looking for the best implementation of SQL to run on the non-IBM machine, and maybe some of the IBM machines as well.

"I don't think Extended Edition will dominate the OS/2 market," claims Gray. "IBM's implementation is only an engine. We provide not only an engine, but also a full development system and easy-to-use interface. That means a great deal to most OS/2 users." *R:BASE*'s interface to SQL is an interactive package that uses prompt-by-example technology. As you give more examples, the system remembers what you meant so that it can structure your queries more easily. Advanced users can also enter SQL queries directly.

Microrim is offering *R:BASE* for DOS as an upgrade to R:BASE System V. The suggested retail for *R:BASE* for DOS is $725; a price for *R:BASE* for OS/2 has not been established. Microrim, 206/885-2000.

Oracle To Announce 1-2-3 Connection Soon

Oracle Corporation is expected to announce a structured query language (SQL) add-in for *Lotus 1-2-3* in the near future. The add-in will enable *1-2-3* users to access SQL databases without leaving *1-2-3*. In addition, users will be able to import and export *1-2-3* data to the databases. Oracle is known for its MS-DOS extending architecture, which is required due to the size and complexity of SQL and the memory limitations of MS-DOS. It is expected that such an extension will be required for the *1-2-3* add-in. Oracle is also expected to release an OS/2 version of its SQL system in the near future. Oracle, 415/598-8000.

Microsoft Issues Patches To Bad C Compilers

After proudly releasing its new version of its C compiler and new low-cost compiler, Microsoft has had to update both products due to bugs. Some users of the new Quick C package found that after using the package, they could no longer access files on their hard disks. Microsoft discovered that Quick C used some instructions that caused users of older Western Digital hard disk controllers to lose all the files on their disks. The controllers have ROM chips labelled "EPROM #62-000043-010," which can be replaced by calling Western Digital at (800) 847-6181, extension 3400. Other users who upgraded from version 4 of the more expensive C compiler to version 5 found that many programs that ran fine after being compiled under the old version had errors when compiled under the new version. Microsoft is addressing those problems as well. Microsoft, 206/882-8089.

Texas Instruments Settles Suit Against Samsung

In one of the largest chip patent suits ever brought in this country, Texas Instruments (TI) finally settled with the last of the Asian chip makers which it accused of unlawfully using its patents. Samsung, a major Korean manufacturer, will now pay TI royalties on all dynamic RAM (DRAM) chips it exports to the United States. TI is expected to make over $300 million in royalties in the next few years as a result of the settlements in the patent suits it brought against Japanese and Korean DRAM manufacturers.

IBM Sells Last Of Intel Stock

In a move designed to keep both the European IBM investors and its financial advisors happy, IBM sold the last of the 19 percent stake it had in Intel earlier this month. Although this is unlikely to have much of an effect on Intel, since the stock was bought up by other institutional investors, it does signal an end to what many thought was an unusually tight bond between IBM and a major supplier that began four years ago. IBM began selling off the stock earlier this year. IBM held the remaining stock until now due to an agreement it made with European investors who bought debentures that could be converted into Intel stock. Since all the machines in IBM's personal computer line (except the PC RT) use Intel chips as their central processing units, it is unlikely that this selling of stock indicates any displeasure with Intel.

Motorola Developing RISC Chip, May Compete With Sun

Motorola sources confirm that they are working on a reduced instruction set computer (RISC) chip, and that the chip has been under development for at least a year. Murray Goldman, a senior vice president at Motorola, mentioned the chip at a computer industry conference last month. Motorola sources indicate that the chip will not be compatible with Motorola's main-line 68000 family of CPUs, and that the company is spending $10- to $20 million a year on research and development of the chip. If Motorola releases such a chip, it would compete with Sun Microsystems' SPARC chip, which is already receiving wide interest in the industry. Since RISC technology is fairly new, most manufacturers are using current CPU technology while ramping up RISC chip production. In fact, the majority of Sun's workstations use chips from the Motorola family.

GE To Develop And Manufacture Chips For IBM

IBM and General Electric announced an agreement in which GE will create and make application-specific integrated circuits (ASICs) for IBM. The news came as a surprise to many industry observers, since GE is currently a minor player in the chip industry. GE recently acquired a large chip design and manufacturing facility when it bought RCA, and many observers assumed that it would sell the facility to concentrate on other businesses. GE indicated that it expects that the fruits of its research for IBM would make it a more important chip manufacturer, especially for automotive components.

Control Data To Give A Supercomputer To A High School

The ETA Systems division of Control Data has announced its intention to donate the use of a $1 million supercomputer to the winner of a new contest. The contest, called SuperQuest, challenges junior high and high school students to come up with the most interesting problem and proposed solution to a problem that requires intensive numerical calculation. The winning school will have use of the ETA 10P for two years at

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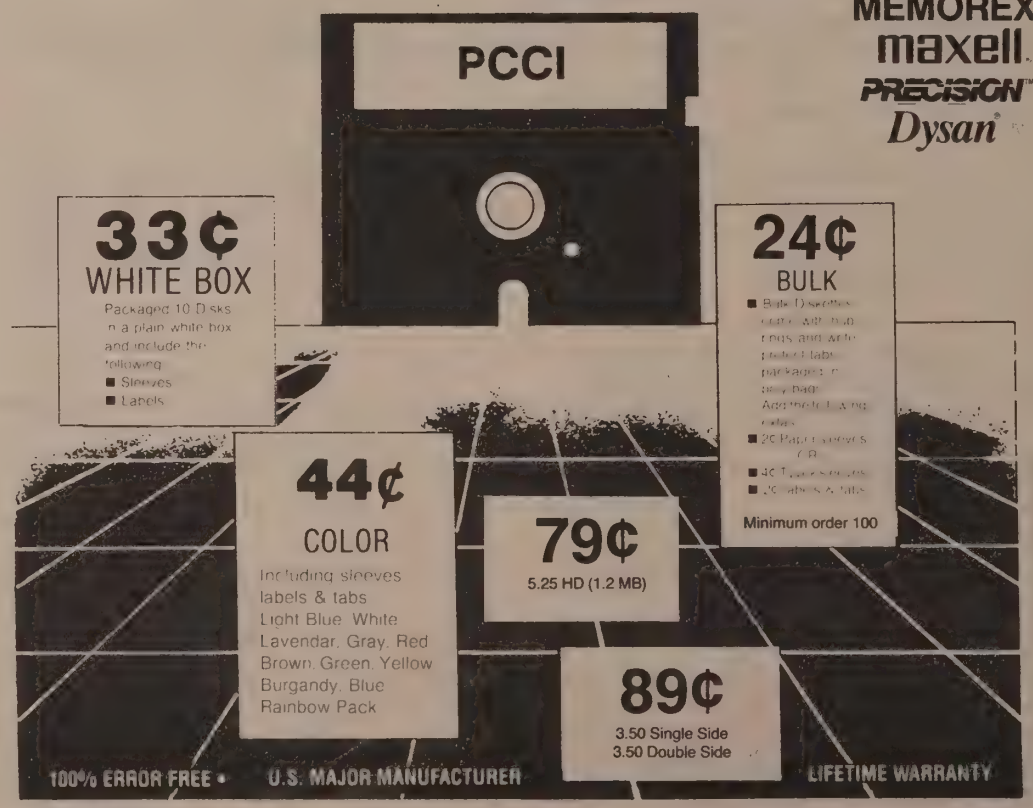

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CDC's expense. According to ETA's president, Carl Ledbetter, "We need something that galvanizes U.S. interest in science like Sputnik did."

Borland Hires VP From Microsoft; Microsoft Sues

Rob Dickerson, Borland's newly-hired vice president of product management, was sued by his former employer, Microsoft. In November, Dickerson left his position of group program manager for Microsoft's languages division. A few days later, Microsoft sued him and obtained a temporary restraining order barring him from working for Borland until early December. Borland and Dickerson then counter-sued Microsoft. The two companies finally settled their disputes with an agreement as to which Borland products Dickerson could work on for the next nine months: he is essentially barred from working on Borland programming language products that compete with Microsoft languages, such as C and BASIC. There is also a six-month moratorium on either company hiring away top executives from the other company.

Lucid Announces Common Lisp For 80386 Systems

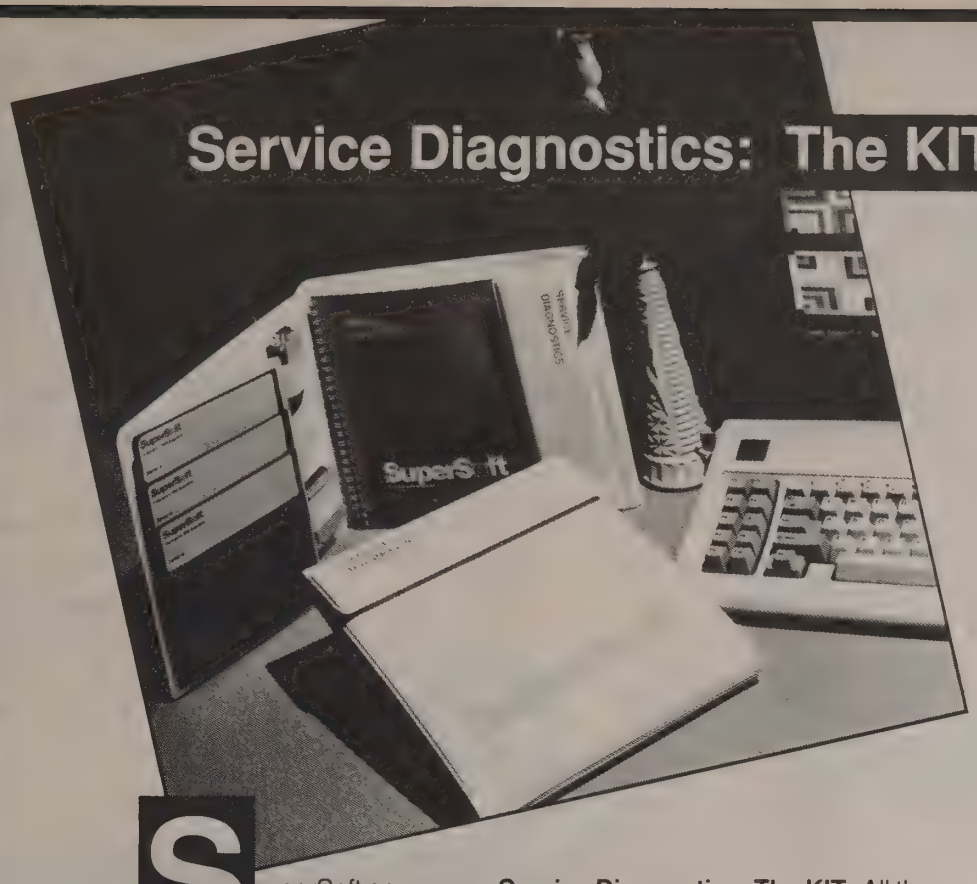
Lisp, the language of choice for most artificial intelligence (AI) programmers, is now available for PCs based on the 80386. Common Lisp, which is commonly run on high-end workstations, is the base for many commercial AI applications that can be ported easily from one system to another. Lucid Common Lisp/386 will initially only run on Compaq 386-based computers. It comes with a Lisp development environment including an interpreter, compiler, debugger, and editor. It works with the 386/ix UNIX System V Version 3 operating system from Interactive Systems. Lucid, 415/329-8400.

Lotus Is Back In Court, This Time Suing An Advertising Agency

In an unusual trade-secrets case, Lotus Development Corporation is suing an advertising agency, Rossin, Greenberg, Seronick and Hill, for allegedly attempting to sell its marketing plans to Microsoft, a major competitor of Lotus. The suit claims that the advertising agency offered confidential Lotus information to Microsoft in an attempt to lure Microsoft as a client. According to Lotus, Microsoft showed Lotus the letter with the offer, prompting Lotus to attempt to get an injunction and to sue the firm for unspecified damages. The Lotus marketing information was allegedly obtained by the advertising agency's employees in previous jobs at one of Lotus' advertising agencies. Neal Hill, president of the agency in question, immediately denied the charge saying that it was "absolutely false and without merit," and that he would "aggressively fight the charge."

Sony To Produce NEWS At San Diego Plant

Sony, one of Japan's largest manufacturers of computer and electronic equipment, announced its intention to produce its new 32-bit UNIX computer in its San Diego plant. The NEWS color workstation has rapidly become the workstation of choice in Japan due to its advanced software and low price. The Japanese version is faster than a Macintosh II and features two 68020 CPUs and a 68881 math co-processor, running at 16.67 MHz, which is considered to be extremely fast compared to American workstations in the same price range. Software included with the workstation includes



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Berkeley 4.2 UNIX, NFS, X Windows, and the EMACS editor. By producing the workstations for the American market in San Diego, Sony can avoid the high tariffs for off-shore manufactured products. With the workstation race between Sun, Apollo, and Apple heating up, Sony's system should meet stiff competition but also help bring down prices on the higher-end systems.

California Assembly Committee Will Reconsider Data Bill Of Rights

The Elections, Reapportionment, and Constitutional Amendments Committee of the California Assembly will hear a reconsideration of a constitutional amendment to give electronic communications the same rights and responsibilities as written and spoken words. In addition, the bill would protect the data stored in computer data bases in the same manner as other personal property. The bill, ACA 36, was defeated last August in the Elections Committee, but the committee agreed to hear the bill again this month. The bill, considered to be stronger than the current federal protection, is supported by the California Trial Lawyers Association, the American Civil Liberties Union, and many law enforcement agencies.

New Group Forms To Combat International Software Piracy

The Business Software Association, a new group of major software vendors, would like to put all the software pirates in other countries out of business, if not behind bars. The initial focus of the group is to prosecute pirates, particularly the flagrant pirates in Asia, who sell unauthorized copies of American software products at vastly reduced prices. A common practice in many countries is to take a package that costs more than $500, copy the diskettes and photocopy the manual, and sell the bundle for $10. The BSA's members hope to put pressure on the pirates and their countries with political pressure from the U.S. and legal proceedings. Initial members of the group include Apple, Ashton-Tate, Autodesk, Lotus, Microsoft, and WordPerfect.

ADAPSO Intends To Play Hardball With IBM Over Trade Practices

The leading mini- and mainframe software manufacturer's trade group, ADAPSO, has been grumbling for many months about the settlement of the IBM-Fujitsu trade secrets lawsuit. In the settlement, Fujitsu was given access to some of IBM's source code; however, the source code is not available to any other software manufacturer. ADAPSO has been discussing the settlement for many months, and ADAPSO president Jay Goldberg recently said that IBM's actions "have created a consensus" to mobilize ADAPSO. Recently, ADAPSO began meeting with members of the antitrust section of the Justice Department and with officials of the European Economic Community about IBM's trade practices. According to Goldberg, "I'm not hopeful we won't have to escalate the conflict." The "code wars," as they have become known, revolve around IBM's policy of not releasing source code to its operating system products, which it used to do.

New Infocom Game Makes You Watson To Sherlock Holmes

Infocom's newest interactive fiction game, *Sherlock: The Riddle of the Crown Jewels*, puts the

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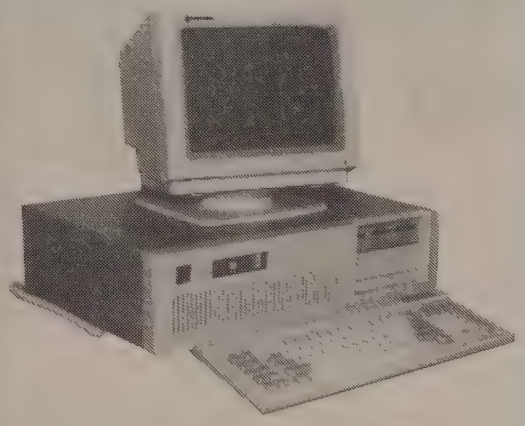

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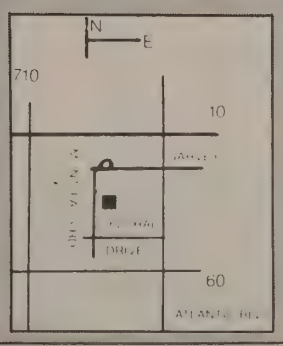

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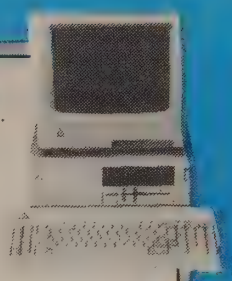

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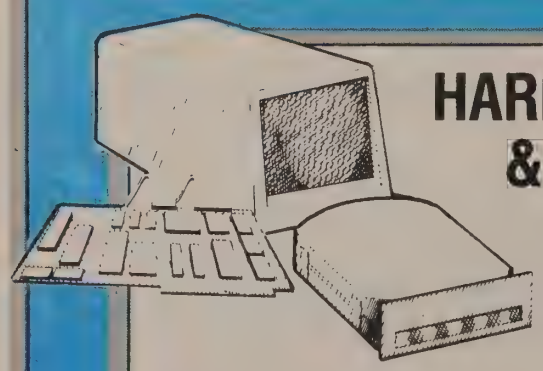

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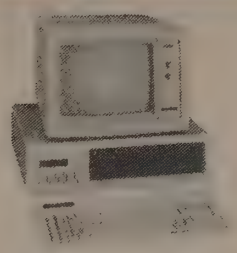

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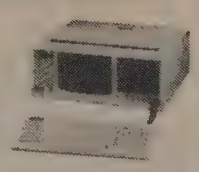

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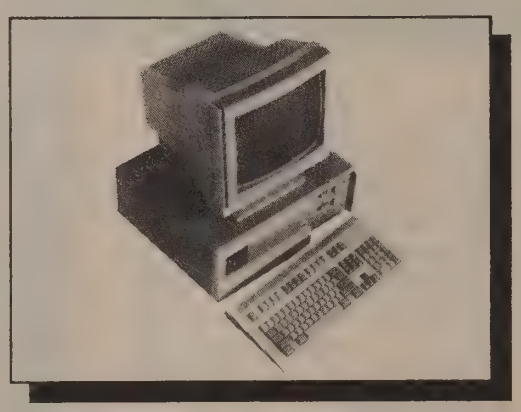

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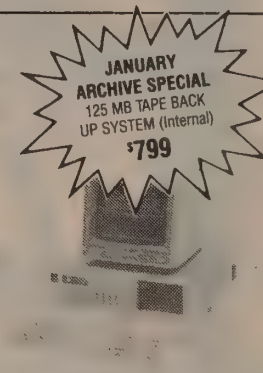

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TeamXerox

player in Victorian England, trying again to foil yet another diabolical plan from Professor Moriarty. Instead of playing the role of the immortal sleuth, however, you play Watson, getting whatever information and shrewd ideas you can from Sherlock Holmes as you solve the puzzle. Versions of the game for the Atari ST, Amiga, Apple IIGS, and Macintosh, have high-quality sound for many of the parts of the game. Infocom, 617/492-6000.

Brazil Comes Under Fire From Congress And Manufacturers

Brazil's stiff law restricting importation of software and hardware may get the financially beleaguered country in trouble in the near future. Six senators, including both California senators Alan Cranston and Pete Wilson, have introduced a bill to take action against Brazil for abrogating its bilateral trade agreement with the U.S. The bill is strongly supported by the Software Publishers Association, a group of 260 microcomputer software manufacturers. Autodesk, manufacturers of *AutoCAD*, recently pulled out of the country in response to the government's refusal to allow distributors to sell *AutoCAD*. Brazil's Informatics Law, designed to help Brazil's computer industry, has been used to keep major international companies out of Brazil. According to Jim Michler, manager of international sales at Autodesk, "The Brazilian press has estimated that about 40% of all CAD software used in Brazil consists of illegal versions of *AutoCAD*." Six leading Brazilian hardware firms were recently denied permission to license MS-DOS from Microsoft under the law. Software Publishers Association, 202/452-1600; Autodesk, 415/332-2344.

Hewlett-Packard To Announce New Low-Cost 300 Dot Per Inch Inkjet Printer

Next month, Hewlett-Packard is expected to announce a new 300 dot per inch inkjet printer. The new printer, which produces print quality nearly as good as laser printers, will be approximately the same size as a dot-matrix printer, will use standard paper, and will be almost silent in operation. The expected price will likely be under $1,000, according to sources at Hewlett-Packard.

Autodesk To Give Away Software To Programs Training The Disabled In CAD

If you are a non-profit educational organization teaching physically disabled people how to use computer-aided design (CAD), you may be eligible to receive free *AutoCAD* and *AutoSketch* software. CAD is useful for disabled people learning a new marketable skill, and for architects and designers

Correction:

In our January issue, our MicroTimes 100 listing of industry leaders erroneously described Mr. Tom White as the Chairman and CEO of Seybold Seminars.

Mr. White is the Chairman and CEO of Santa Clara-based Infonetics, formerly known as The Seybold Group. Seybold Seminars is based in Malibu, and there is no affiliation between the two organizations.

We sincerely apologize for any inconvenience to Infonetics, Seybold Seminars, their clients and our readers that has been caused by this misunderstanding.

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who have been injured but want to continue to work. Autodesk is accepting applications from non-profit and educational institutions that are teaching CAD usage to the disabled. The deadline for submission is January 31, 1988, and the awards will be announced in February. Autodesk, 415/332-2344, extension 247.

Microsoft Announces Arabic Version Of MS-DOS

Noting rapidly growing use of computers in the Arabic world, Microsoft has announced that it will soon release an Arabic native-language version of MS-DOS 3.3. The operating system, created with assistance from Alis Technologies, handles all the difficulties of the Arabic language such as right-to-left writing, context-dependent letter shaping, and processing Hindu numerals. It uses Alis Technologies PLASMA (Presentation Layer Algorithm for Screen Management Arabization) technology. The package includes Arabic printer drivers for many dot matrix and laser printers. Microsoft's user manuals have also been translated. Arabic MS-DOS will be available to manufacturers from Microsoft and in packaged form from Alis Technologies. Microsoft, 206/882-8080; Alis Technologies, 514/738-9171.

Major Japanese Diskette Maker Opens First North American Plant

Kao, one of Japan's large diskette manufacturers, announced that it had opened the largest 3.5 inch floppy manufacturing plant in Ottawa, Canada. The new plant is expected to produce 150 million diskettes per year by 1991, according to Kao. Currently, the plant is making two million disks per month, and this number will double within a year. Kao expects that 75% of the disks will be used in the American market. Since both the Macintosh and the new IBM PS/2 computers use 3.5 disks only, the demand for these disks is expected to increase rapidly for at least five years. Kao has specialized in the 3.5 inch market in its American operations, with over 80% of its current American product shipments being 3.5 inch disks. Kao, recognized in Japan as more of a chemistry technology company than as a manufacturer, is known for its emphasis on using its own materials whenever possible in its disk-making technologies. Kao, 415/965-4188.

Claris Moves Out On Apple, Begins Using Its Own Name

Apple's software spinoff, Claris, moved out of Apple offices and into its own offices in Mountain View last month. As part of Apple's attempt to show that the ties between it and the software company that it wholly-funded and seeded with its best software applications, Claris moved out of Apple's offices and began its own manufacturing and distribution. In addition, Claris announced that it will begin marketing products under its own name instead of Apple's, and would remove the Apple logo from the products. It is likely, however, that most people will still associate Claris' products such as *MacWrite*, *MacPaint*, *MacDraw*, and *AppleWorks* with Apple and not Claris. Claris is still actively pursuing new software products from other vendors. Claris, 415/960-2790.

Epyx Granted U.S. Olympic Team License

Epyx recently became an official licensee of the 1988 U.S. Olympic Team, and announced the release of the winter edition of *The Games*, its popular sports series. Part of the proceeds from the game will support the U.S. Olympic Team. The game, which features TV camera-angle points of view, was designed with the help of the U.S. Olympic Team affiliates, as well as from videotapes from the U. S. Olympic Committee. Other new sports titles from Epyx include a baseball simulation called *Sporting News Baseball* that is based on statistics from *Sporting News*, and was developed under a license from the Major League Baseball Players Association. Other new action game announcements include: *4x4 Off-Road Racing*, the first off-road racing game; *Street Sports Soccer*, where you play on realistic fields such as a slippery public park field or in a city street; and *L.A. Crackdown*, where you attempt to bust drug dealers. They also announced *Home Video Producer*, a tool that lets you add special effects and text to videos shot with a camcorder. Epyx, 415/366-0606.

Avantek Sues Former Employees For Misappropriation Of Trade Secrets In Chip Manufacture

The software industry is not the only one where litigation against former employees is becoming more common. Avantek, a major supplier of chips and systems for the microwave electronics market, has sued Celeritek for misappropriation of trade secrets. According to the suit, the founders of Celeritek are former Avantek employees who began a firm that competes with some of Avantek's products. The suit further alleges that Celeritek, while assuring Avantek that they would not use any trade secrets in their manufacturing, used proprietary methods for making gallium arsenide (GaAs) transistors. Avantek, 408/970-3028.

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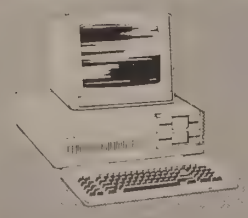

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REVIEWS

HARDWARE/ PERIPHERALS

RamStak Plus

A RAM Expansion Card with ROM Disk Capability for the Apple IIGS

From: *AST Research*
List Price: *$129*
Reviewed by: *Mike Markowitz*

To many veteran Apple II users, 64K still seems like a lot of memory. So the 256K that comes installed in the new IIGS might seem, at first, like a boundless ocean of RAM, a desktop spacious enough for multiple applications to reside together in harmony.

Think again.

The IIGS doesn't have the definitive version of its 16-bit operating system yet, but almost all the new applications that exploit its special features require 512K minimum, right out of the box. The forthcoming *Deluxe Paint II* for the IIGS from Electronic Arts will require a whopping 768K! A serious RAM disk application could require 800K more.

Back to the store again, cash in hand. You need a memory card. Not just any old slot RAM card, but something for the auxiliary slot that is directly addressable by the microprocessor. Apple offers a low-cost plain-vanilla card socketed for up to one megabyte. Other vendors offer higher priced cards expandable up to eight megabytes, with every imaginable bell and whistle.

AST Research, of Irvine, California has taken a unique approach to IIGS memory by offering a double-header card, the RamStak Plus, which combines up to a megabyte of dynamic RAM with the possibility of adding another half megabyte of ROM-based applications. A little-known feature of ProDOS allows the creation of "ROM disks" that are addressed like any other ProDOS device. ROM-based software is familiar to users of laptop portables, but it is something rather unusual in the Apple II environment.

There are two kinds of ROM chips that can be used with the AST card. EPROMs (erasable programmable read-only memory) can be programmed with a special device connected to the computer, and erased with an ultraviolet lamp (there is a little window in the plastic chip carrier.) Many user groups have an "EPROM burner" available for the use of members, and small ones are avilable for under $100. EEPROMs (electronically erasable programmable read-only memory) are more expensive but also more convenient. They can be programmed or erased through software. A software utility for this purpose is provided on the disk that comes with the RamStak card. EEPROMs can be programmed and erased directly from the software. For EPROMs you must create an "image" (binary) file and transfer it to an EPROM programmer plugged into the computer. EPROMs are installed on the RamStak card only after they are programmed.

The RamStak Plus provides for four banks of standard 256K, 150 nanosecond RAM chips, with eight chips per bank. The card is sold with 256K already installed. At this writing, some vendors were advertising these chips as low as $2.00 apiece in small quantities, but these prices were expected to rise as a result of trade sanctions against Japanese chip makers. You must "populate" or fill an entire bank at one time, but three banks (768K) is not an option, since this configuration causes some programs to crash. Most users will want the full megabyte.

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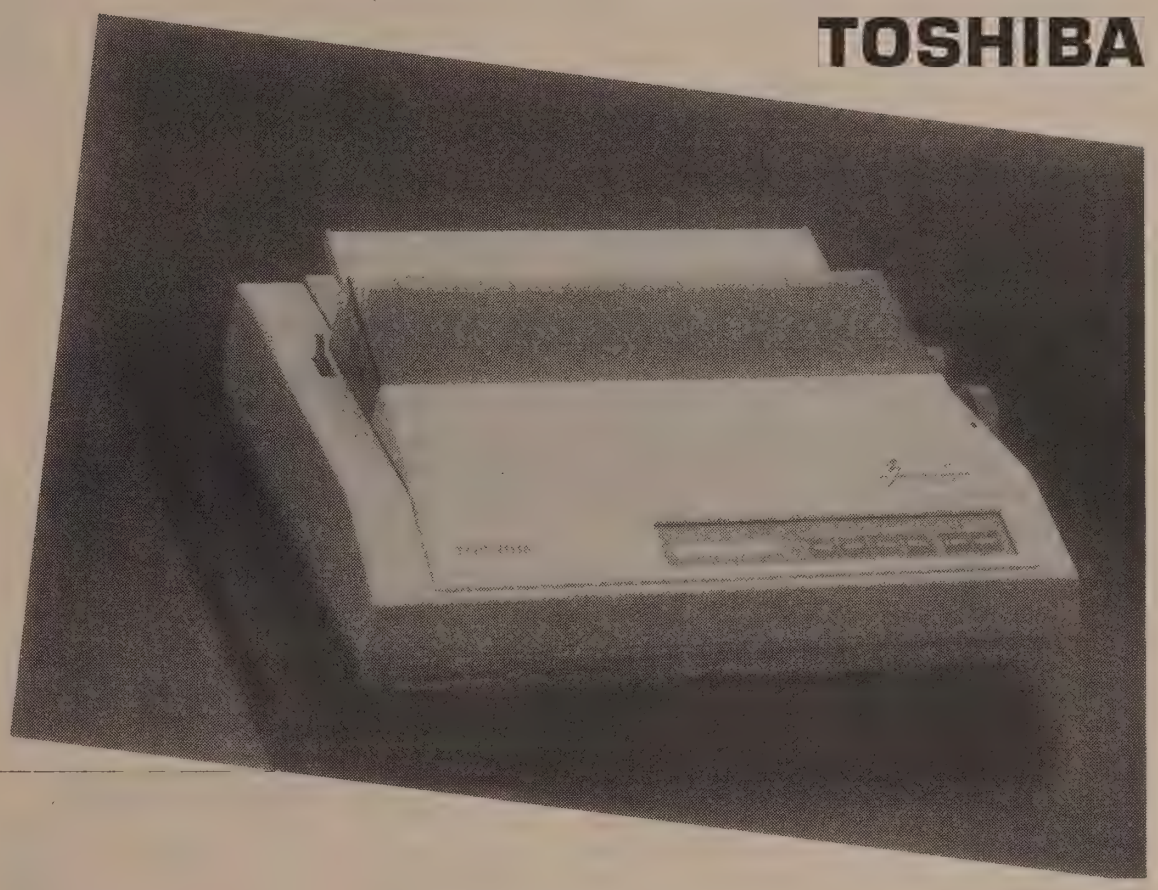

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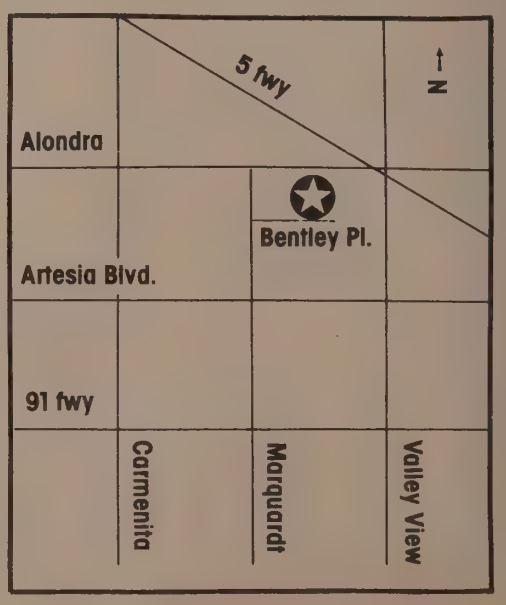

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The card itself is up to AST's usual high standards of workmanship, with gold edge connectors, and no telltale jumper wires or etch cuts indicating last-minute corrections of design errors. Bank zero—the first 256K of RAM—has chips soldered in place. Everything elese is socketed. Using an inexpensive chip puller (available from any neighborhood electronics store) it took only a few minutes to remove three banks of chips from my old SprintDisk card and install them on the RamStak Plus. A jumper block on the card must be set correctly before installing the card in your IIGS. This is clearly illustrated in the 100-page manual that accompanies the card. There are *two* jumper blocks for each of the four ROM chip sockets, which must be set according to the particular type of chip installed.

The 3.5" utility disk provides a RAM self-test to identify any defective chips. The software uses the standard Macintosh-style interface, with pull-down menus, dialog boxes, and attractive graphics. My techie friends advise running the self-test all night to burn-in new chips.

The IIGS manages slots and devices in a rather complicated way, and earlier version of ProDOS are not consistent. The manual does a good job of explaining what appears where. A RAM Disk, for example, always appears in Slot 5, with the volume name /RAM5. If a 3.5" drive is your startup device, it is seen as Drive 1, the RAM Disk is Drive 2, any ROM Disk is Drive 3, and the second 3.5" drive is Drive 2. Got that?

Appleworks Version 2.0 recognizes the RamStak Plus card, and automatically loads most of itself into the expanded RAM (except for those stubborn printer routines). Most unprotected 8-bit software can be copied to the card from the Desktop, and then run with a noticeable improvement in response time. RamStak Plus worked perfectly with every IIGS program I tried, including *Paintworks, GraphicWriter, Shanghai, Music Studio, VIP Professional* and *WordPerfect*.

At a list price of $129, the AST RamStak is a good value. Apple's own card lists for the same price, but lacks the ROM-disk feature. Expect to pay at least $50 more for chips to fully populate the card, if you install them yourself. The larger-capacity EEPROM chips are quite expensive, and may be hard to find, but for some users the convenience of having the operating system in ROM, instantly available when you turn on the computer, is worth the price.

DATA BASE MANAGERS

Notes.N.Files

Written by: *Gary Crandall*
Published by: *DataPak (1987)*
For: *Apple IIGS (512K)*
List Price: *$129.95*
Reviewed by: *Mike Markowitz*

Notes.n.Files is a simple personal database program for the Apple IIGS. It requires 512K of RAM and at least one 3.5" disk drive. The Apple ImageWriter printer is recommended, but output to a daisy-wheel (letter quality) printer is possible. The program is copy-protected, but it provides a hard disk installation utility.

"I'd like to be able to keep track of some names and addresses and write these people a letter now and then, or maybe just jot down a memo and file it away." That's basically what most people would like to do with a personal computer, but the typical software environment makes you jump through too many hoops to do it: setting up fields and records and formats, until you feel like an unpaid data entry clerk.

There is no point to keeping a personal database on your computer unless it is really easier and more fun than filling out cards by hand and filing them in a box. *Notes.n.Files* is the first personal database program I have ever seen that represents a meaningful improvement over manual record keeping. It is the smoothest implementation of the "Mac" user interface on any new program I have seen for the Apple IIGS. Anyone who is familiar with the conventions of mouse pointing and clicking can use *Notes.n.Files* immediately. Error trapping is thorough, and dialog boxes are clearly organized. It works the way you expect it to work, and that is one of the highest compliments a reviewer can pay to a programmer.

The screen opens on a realistic image of a two-drawer filing cabinet. When you click the mouse on either drawer, it open to reveal a stack of file folders, in alphabetical order. Only about six folders are visible at one time, but you can scroll through the staack using the mouse, or search for a particular folder using the File menu. When you click on a file folder it blossoms into a window, giving you the choice of working directly with one of the documents in the folder, or with the "Folder Summary," a record that contains fifteen fields for data. Fields include Name, Company Address, Phone, Misc. and Comments. You can easily rename the fields, but not resize them. An 800K disk has room for up to 2500 records.

A series of icons across the bottom of the screen provide you with a supply of "stationery," indexes to the contents of the file cabinet, a "copier" for duplicating documents and the familiar trash can. When you open the Stationery window you can choose letter size, legal size, wide (132 column) paper, 3×5 card and empty folders. Double-click on the icon for a black sheet of paper and a complete word processor jumps out at you, ready for the composition of your document.

A pull-down menu bar across the top of the screen provides standard File, Edit, Font, Style, Format and Print functions. The menu functions can also be done with easy command-keystroke combinations. There is one desk accessory—a digital clock. In the present version of *Notes.n.Files* there are only two fonts: Bookman and Helvetica, each in 9, 12 and 18-point sizes. Styles include plain, bold, italic and underline. On the ImageWriter, printing makes several passes and produces text of exceptional quality. There is also a quick Draft mode that ignores font and style attributes. Future releases of the program may provide a LaserWriter printer driver.

Notes.n.Files can import *AppleWorks* database files (as text files) if they do not exceed 15 fields or 40 characters per field. Documents can be imported or exported as text files, with a loss of font and style attributes.

Mailing labels can be printed in several formats, and a mail merge capability is built into the program. You can drag a form letter through the Copier icon and it will insert the data from the frontmost folder on the desktop. A series of form letters can be printed using data from every folder in the cabinet, or any defined subset.

DataPak is a new company, but product support looks good. The first back-up disk is free to registered owners, and there is a technical support hotline.

I like *Notes.n.Files* so well that I have used it for most of my personal correspondence for the past month. My letters may not be any smarter, but they look better, and are, for the first time, ORGANIZED in file folders. This product would be an excellent choice for any IIGS owner with a small business or a large association to manage. It can also be recommended for students, writers, researchers and others who need to organize information in a readily accessible manner. (DataPak Software Inc., 14011 Ventura Blvd., #507, Sherman Oaks, CA 91423 818/905-6419.)

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THE AMIGA RETURNS

New Directions For Commodore

When we heard that Max Toy, who had previously appeared on our March 1986 cover in his capacity as senior marketing v.p. at ITT (later XTRA), was Commodore's newly-chosen president and COO, we were quick to phone our congratulations. After a cheerful conversation, he remarked, "I need you to do me a favor." Sure, said we, what's that?

"Well," said Toy, "if you see me doing anything stupid, I want you to pick up the phone and tell me, Max, you're doing something stupid. Because if all my friends in the industry and the press do that, we won't be making very many mistakes."

This represents something of an attitude shift at Commodore, which has in the recent past seemed to have the responsiveness and approachability of the Berlin Wall. While continuing to produce a variety of high-quality machines — currently the perennial Commodore 64 and its big brother the 128, a line of Commodore MS-DOS machines, and the Amiga computers — the company has historically been plagued with image problems, marketing fiascos, and disaffection from dealers, users and the third party development community. Amiga enthusiasts in particular often felt that their achievements came in spite of the parent company — as a recent example, shortly before the Amiga 500 and 2000 models arrived in the marketplace, software and peripheral developers were offhandedly informed by Commodore that due to internal changes there were serious compatibility problems which would cause products developed for the original Amiga 1000 not to work on the new machines. Despite this cavalier treatment from Commodore, third-party developers continued to stretch the capabilities of the company's computers with such products as the GEOS windowing operating system for the humble 64K C64.

PHOTO: KEN JAMES/PAT JOHNSON STUDIOS

While users floundered with often-inadequate support, there were also frequent episodes of disaffection among Commodore's dealers — the release of the Amiga, for instance, was marred by squabbling and disagreement over Commodore's inconsistent policies for allowing dealers to sell the new machine. Commodore's departed founder Jack Tramiel (now chairman of Atari) once voiced a much-quoted comparison of the functional similarity of distributors and whores, and often the company's treatment of its distribution channel seemed to reflect the longevity of this attitude.

A veteran of IBM, Compaq, and ITT, Toy seems an ideal choice for solving some of Commodore's woes and bringing its machines into greater prominence. He brings to the job a wealth of marketing expertise, from dealer relations to product positioning, which he manages to present as a simple matter of common sense. Addressing the assembled company for the first time some 30 days after his arrival, he presented the company's new policy: "Do what is right, do it right, and do it right now."

We visited Toy in December. He'd been on the new job for nearly three months and was already in the process of making some strategic changes. It's early yet, but based on his past track record, expect changes in Commodore's historic reputation as a company that makes great machines and doesn't know what to do with them.

What led you to Commodore, and what do you bring to the company?

It's a tremendous opportunity for me personally. Here's an $800 million company that sells between 1-1/2 and two million computers a year. Everything I've ever done in my career, I have been driving and trying to move toward the presidency

CBM President Max Toy On Communications, Support, Technology, And Doing It Right

By Dennis Erokan and Mary Eisenhart

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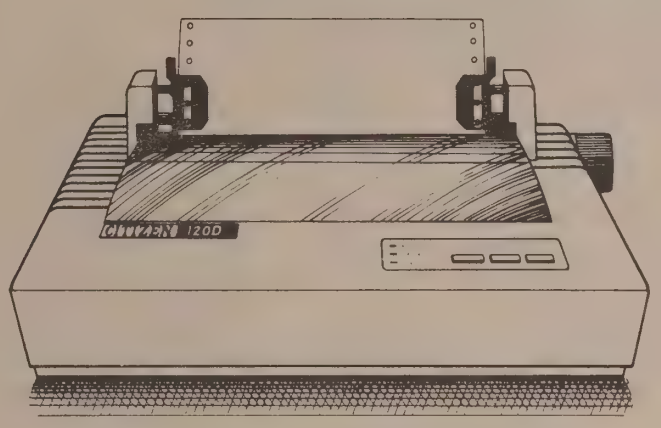

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of a company, not just to be a president, but to come in and have a significant impact on a company, and be a part of what that company is and what it can be.

I've been very fortunate to have worked for some of the finest companies in the industry, had some great training, worked with some great managers. All of that has helped get me ready for this opportunity.

From a business opportunity standpoint, again, I think it's a significant opportunity. Here's a company that has some unique things going for it in this industry. One, it's a company that has the capability to do integrated design of a product from silicon on up. It's a company that has the capability to do integrated manufacturing from silicon on up. There are a lot of companies out there today who assemble computers from a bunch of components that they buy, but here's one that can go off and do the innovative things that are necessary to be competitive, and at the same time have the economies of scale of manufacturing to build a very cost-effective solution to business problems.

The third thing is that here's a company that has an installed base of between 10 and 12 million customers in the world, seven million of which are in the United States. The opportunity to come in and just upgrade 10% of that would be a significant business opportunity.

And then the fourth reason, from a business standpoint, is that not only do you have a seven million installed base, but it's a very active installed base, a very enthusiastic, a very caring — I've never sensed in any other computer company the kind of aggressive loyalty that exists between the company and its users. There are some very strong Commodore and Commodore Amiga fans, and that's exciting. That's a tremendous opportunity, a tremendous potential that we can go work with to help maximize our capabilities.

From a personal and business standpoint, those are the reasons why I think I was so excited about this opportunity.

Your background is very strong in sales and marketing. In the past it seemed that Commodore hasn't held those areas in particularly high regard. Do you see your being hired and your background as being an indication that sales and marketing, and communications with the outside public, are going to be more important now?

I think so, very much so. I think as companies go through different stages of their evolution, it requires different kinds of talents and different kinds of expertise at different moments in time. I think Commodore is in a position today where it has some very strong technology, and the opportunity to come in and integrate some good sales, get marketing, business planning systems in place, is an important part of the stage of development this corporation is in.

I think, too, when I look at some of the challenges and the opportunities in front of us — communication is a very significant portion of it. We've got to go off and be able to address stronger communication with our customers, and understand who they are and what their requirements are, and understand how they're changing. A few years ago, the majority of the customers in the personal computer business were all at the same place, because they all started at the same time, based upon the technology. And now the customer's in a whole new set of requirements based on the whole new spectrum of understanding of where he is in the marketplace.

So it is more important today than ever before to understand who your customer really is, and understand where they are, not only in your product's life cycle, but in their cycle, if you will, that stipulates their use of the technologies.

It's not just Commodore – all of us in our business lives and our personal lives have a tendency keep piling more and more on our plate, and we end up not doing as good a job as we'd like to do in all of those areas.

It also is important for us, very much so, to be in touch with the third party community. Part of Commodore's strength, and one of the things that has impressed me tremendously so far, is just how much third party peripheral items, whether it be hardware or software — how many of those things go along with the sale of a Commodore product. You cannot pick up a *Commodore* magazine or an *AmigaWorld* magazine or anything like that, and not be totally impressed with the literally thousands of creative people out trying to help take this platform of Commodore technologies and turn them into business solutions. There's a tremendous amount of talent being invested, and billions of dollars being invested in creating peripherals.

So we have the challenge to continue to communicate our understanding of our customer set, and our understandings and our relationships with those third parties, to increase our capabilities in the marketplace.

Recognize too that with products like the Amiga 2000, we really have provided a platform device with open architecture, that can serve as a springboard for other development that is a significant step for this company, and a significant advancement toward greater involvement by the third party community.

I think we've got to do a better job of communicating to the influencers, if you will, in the industry, whether that be the press or the financial community — the people who follow our business to try to communicate what's going on to the marketplace. We have recognized that we have an opportunity to go out and do a better job of communicating Commodore's message and its story and its understanding. The beautiful part about that is not only do you get to tell what you believe, but you get an awful lot of feedback back. I learn more from these [interview] sessions than I do from a lot of my market research, because it gives us a chance to sit down over lunch and talk about what's going on and what this company's doing and what this customer's doing, and I get more information from these than I do from a lot of other sources.

I think it's beneficial to spend some time and talk with the press; you want to find out what's going on in the marketplace, that's a very good place to do it.

Most of the microcomputer world revolves around IBM. Commodore, on the other hand, is more or less the center of its own universe. Where do you and your company look for opportunities and directions?

I don't want to sound cavalier, but it really is in the market. It's a combination of recognizing where the market is, and recognizing where the technology is, and how can I utilize the technology that's available to me in a combination to satisfy a market need. When I can accomplish that, then we begin to see the development of products to satisfy those needs.

But it's not enough to say I can go look at the market and the market only, and it's not enough to say I can look at technology and technology only. I have to get technology that can be applied in a cost structure that will allow the market to satisfy its requirements. It's those areas that you want to approach with flexibility.

I think it's also critical to go back and focus on where your strengths are, and recogize that you're going to make a step that is in line with what your other steps are, as opposed to stepping totally sideways and try ing to go in a different direction. I mean, the body isn't made to go that way. If I'm walking straight ahead and all of a sudden my right leg shoots out 90 degrees to the right, that's going to create some problems. So it's important that you also recognize how you use those technologies and the information the market's providing you, in light of where you are. I may want to be over there to the right someday, but I may not be able to go over there right now, so I've got to do that and recognize that my market's changing and evolving.

What are Commodore's strengths, and what do you see as its direction? Has it been trying to do too many things at once?

I think the strengths are what we were talking about, integrated design and manufacturing capabilities, and again, who your installed base is. When I look at our installed base, the significant portion of our installed base today is in the home, work-at-home, the tiny business, and the small and medium business. The exciting thing about that is that there are more enterprises there than in any other single place in the marketplace. The next exciting thing about it is that they're also the least computerized of any segment of the marketplace. That also happens to be the biggest challenge as well.

As far as what Commodore's been doing in the past, I think Commodore has been trying to address a lot of things. I don't know that they've been doing too many things, but it's a position now where I'm going to benefit from some of the things that have been accomplished, so I don't have to do everything.

I do think that we as a company have to keep our focus very tightly on what our strengths are, and where our opportunities are. We now have three distinct product lines satisfying three dis-

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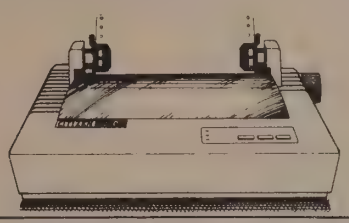

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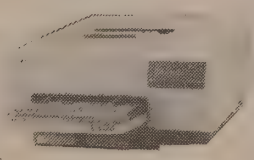

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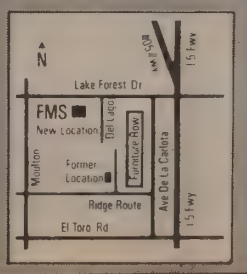

If you want to find what a company is about, what their challenges are and what their problems are, and what they're doing well, you go and read their customer complaints. The customer will tell you what you're doing well and what you're not doing well.

tinct markets — multiple markets, three's probably an understatement. I think we have the opportunity to go off and leverage in all of those markets.

From a focus standpoint, we are going to have to prioritize and do a few things very well, as opposed to trying to do everything. Which says that there may be an opportunity that may be very significant, that Commodore may not be able to address today. It doesn't say that it's not a great opportunity, it's just that it may not be the right time for us. So we will try to evaluate those focuses, go back to some very simplistic approaches — you list the things you want to do, and when something new comes along, you try to find out where it fits on that list, recognizing that whatever the bottom of that list is is probably going to fall off, and is that something you're prepared to do as a business? Unfortunately, and it's not just Commodore — all of us in our business lives and our personal lives have a tendency to forget that, and we keep piling more and more on our plate, and we end up not doing as good a job as we'd like to do in all of those areas.

So we're going to concentrate on moving our products closer and closer to solutions for our customer set. We're going to concentrate on establishing firm and well-defined distribution channels for well-defined and firm product sets — which are differentiated by product channel. So that you may see a product from Commodore that is in one channel of distribution and not allowed to function in another channel of distribution. It's because of the nature of the channels and the nature of the customer sets.

What are the three product groups, and what do you see for them in the immediate future?

First of all, there's the Commodore 64/128 category machines. Those products today are primarily sold in the home and work-at-home marketplaces. In the case of the Commodore 64, a large portion of the users — and a very fast-growing segment of the users — are under 12 years of age.

That's not to say that we have not seen the Commodore 64 being used in business; in fact there continues to be new software developed, and new opportunities on the Commodore 64. It's a product line that continues to grow — we still sell in excess of a million to a million and a half computers a year in the Commodore 64/128 line. We bring more first-time users to computing than any other company in the world. So it's an exciting product line, it's a product line that we see continuing very strongly for a long period of time. We are continuing to put our research and development dollars into that product, and you will continue to see additional development in that category from Commodore for some time.

Has the GEOS operating system had much of an impact on sales of the C64?

I think we've seen a significant impact. It has helped enhance the friendliness of the product, it's helped expand its capabilities, and we're seeing more and more 64s being utilized in the work-at-home environment.

Fortunately or unfortunately, industry leaders have tried to position the 64 as a home product, and in effect put it in the category of a toy. Granted that there are a lot of young kids that use that machine and play games on it, but in addition to that we must recognize that there are over 10,000 titles of software for the Commodore 64, that over 3000 of those are education packages, over 5000 of them are business packages, and we continue to see development with the GEOS operating system, of the new business or related packages into that marketplace. So it's continuing to grow.

All you have to do is go to a Commodore user group meeting, and talk to the people about what they're doing with them and you will find out that by no stretch of the imagination is the Commodore 64 a toy machine. It is doing real computing, and it has the benefits of having graphics capability and a price point that provides an entry point for people that no other computer does in the marketplace, There is no real competition for that product.

The 128, of the two machines, tends to be an even bigger utilization of the work-at-home or tiny business type product. It continues to enjoy a very strong success, and we will continue to invest and develop products that support that category, so again it will continue for some period of time.

The second category — we announced in the United States an MS-DOS compatible line this past year, and enjoyed a tremendous amount of success with that product in a very short time. It basically convinced us that there are an awful lot of people out there who have found, through their experiences in the past with Commodore, that Commodore delivers a high-valued quality product. I'm sure those people have had an opportunity to buy somebody else's DOS machine, but for some reason they have not, and yet when Commodore came into the marketplace a large number of customers went out and bought that product very quickly.

I think you will see us to continue to develop an MS-DOS compatible line of products, and continue to invest in the development of a broad-based product set, again recognizing who our customers are. And you'll also see in that area that we'll differentiate those items by channel, we will have a distinct set of products that are targeted for the home and work-at-home marketplace, to be delivered through the mass channel, and then you'll have a completely different and distinct product set that we deliver throught the dealer and the VAR marketplaces, concentrating on what their requirements are. So you've got product differentiation by customer set and product differentiation by channel of distribution.

We're excited about the opportunity to see the United States come back as a manufacturer of computer technology products. As you know, we have in Pennsylvania a semiconductor facility, and then we will be doing final assembly in the United States for the MS-DOS line, which is important to us both from a financial standpoint, but also strategically because it's a growing factor in doing business with the government.

The third line of products is the Amiga product line. Two years ago the Amiga 1000 was announced, with a heavy emphasis on graphics capability and sound. Recently we have announced the Amiga 500 and Amiga 2000, with the same high degree of graphics capability and sound capability. But they were also designed from the very beginning to optimize the multitasking capabilities.

There are a lot of products in the marketplace today that do multitasking, but this machine was optimized for it, so it has capabilities far in advance of anything that we've seen in the marketplace, especially at that price point.

We see the Amiga product line opening up new reasons for people to be buying a home computer, because it gives you a device that can be the center of your home-entertainment, work-at-home, home sound systems, video system — all of those can be integrated, utilized and optimized with the use of Amiga products.

The Amiga 2000 has been positioned as a platform for future development. It has the business capability, and at the same time has the capability of running DOS as a task. So I've got the integration of the best of both worlds — the ability to use my *Lotus 1-2-3* and transfer those files back and forth through my system into my Amiga files and utilize the capabilities I have there.

Do you see the Amiga 2000s going after the Macintosh IIs and the Suns of the world in the workstation market, rather than competing with Atari?

The Amiga 2000 is more competitive with the Apple/Sun environment. As a manufacturer you try to put your technologies together into a product, but really, the marketplace is what positions your product. What we're seeing is that it's in that [workstation] area that the market is positioning the 2000, with its advanced capabilities to be a very powerful, low-cost workstation product. It opens up a lot of opportunities in the area of graphics, and it utilizes the things that the marketplace has been asking for — graphics, user-friendly interfaces, and the multitasking capabilities to integrate a lot of task into my business solutions.

It's been very well accepted as a powerful workstation. We see ourselves at any given point in time competing against any of those types of manufacturers.

Are you satisfied with your representation in the stores and in the retail channel?

Here comes the commercial. (laughs)

Well, naturally, we have a very strong, loyal distribution channel. We've got people who have supported Commodore and Commodore Amiga products for a long time, who have been very effective in the marketplace. It is our intention to continue to reinforce and support those people, to help them continue to grow their business, and

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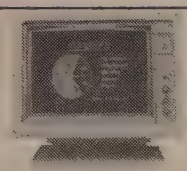

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Commodore has a tremendous opportunity to go out there and mobilize its customers, the third party community and its dealer channel very quickly, if we'll just share a little bit of information with them, let them know that we understand what's going on out there.

continue for it to be profitable for them to represent Commodore in the marketplace.

We will be looking to expand our distribution capabilities into other channels, again specific by product. At the same time we're continuing to grow and reinforce our distribution channel to try to have a broader-based system to serve a broader-based market. Commodore early on did not have products that were platforms to be supported in the higher end of the business market, the workstation market for example, and now we're seeing the technology and the packaging of the products in such a way that it opens up some new market opportunities. We're looking for long-term business relationships with distribution channels that will continue to support our products for a long time.

What's a typical day for you in the last few months? What are the various areas you're getting into as you're getting to know the company?

Well, the first thing I had to learn was where to park my car and what door to come in. (laughs) We had our first company meeting — I waited till I'd been there about 30 days so that I felt that I could stand up in front of this group of people and show a little bit of intelligence.

We had our first meeting, and I had to be away for another meeting in the morning, so I came and the meeting had already begun, because I wasn't on the agenda till later anyway. It was an all-company meeting, so the only people left in the entire building were a couple of people strategically placed around to answer telephones. So I come running into the building, just running as fast as I can, and *I can't find the meeting*. And there's no one around to ask (laughs). And I'm running around the entire building trying to find where this meeting is.

I finally tracked it down, but I really have spent some time trying to find out which door to come in, where to park my car, and all that.

The first thing I did when I first got there was that I sat down and met individually with each of the people who report directly to me, so I have a good understanding of where they were and a chance for them to understand who I was. A little chance to get to know each other.

The second thing I did is that I went to our customer complaint file. If you want to find what a company is about, and what their challenges are and what their problems are, and what they're doing well, you go and read their customer complaints. The customer will *tell* you what you're doing well and what you're not doing well. It's the quickest way to get an insight into the company.

So I spent the first couple of days, more like four or five days, reading customer complaints, calling customers, end users, dealers, user groups, trying to understand what the people who looked at us were seeing.

What did they have to say?

The concerns primarily had to do with support, whether from our channels of distribution or from us. I remember I made one call, it was to Atlanta, Georgia. I can't remember the man's name, but I asked if he was there, and he said yes, and I said, "My name's Max Toy and I'm the president of Commodore, and you'd written us a letter and I'm calling you to ask about that letter." And the guy started talking, and all of a sudden his voice changed, and all of a sudden it dawned on me that this guy was probably 12 years old. I was talking to a young man who all of a sudden realized that he was talking to the president of Commodore Computer, who called to find out what his concerns were about his computer.

That must've amazed him.

He and I had a long talk — we talked about his product, and why he bought it, and the fact that the reason he bought it was because of all the great software that's out there, and he and his buddies trade software...It was very good to have a chance to sit down and talk to the customer.

I've called user groups, I've called dealers, and you're right, a lot of them have been amazed that the president would pick up the phone and call. I talked to a dealer the other day who had written a letter. Commodore has a tremendous opportunity to go out there and mobilize its customers, the third party community and its dealer channel very quickly, if we'll just share a little bit of information with them, let them know that we understand what's going on out there.

The questions about support, the questions about technology changes, were the kinds of questions our customers were asking about and had concerns about, and they were also the kinds of things that they were very supportive of. Commodore probably has one of the most loyal user communities that exists in the marketplace today.

We took action on those things. We had some concerns about some letters about the ability of our customers to get into our customer support center via telephone. So we went out and in the first 30 days increased that staff 50%. It's not enough to *say* that you want to provide better support. It's what you do, it's the action you take that's important.

In the last 60 days we have begun to move more and more of our support out of headquarters and closer to the field. We've put our sales reps, our business managers, out into the field. We've moved technical support out into the field. We now have established four regional offices, and there's technical support in each of those regional offices, to move it closer to the customer and closer to our dealers, to provide better support for our dealers.

So in a very short time I think we have taken some very aggressive steps to answer some of those concerns and move support out to the customers. Already we're seing the benefit from that — it's paying off from a customer satisfaction standpoint, but also from a business standpoint, because we're having an outstanding quarter.

Recently one of the big software developers, WordPerfect, came into the Amiga market. What kind of response are they getting, and is there room in the Amiga marketplace for the large companies to come in with their software products?

I think very much so. If you look at the Amiga marketplace, the Amiga technology has basically been on the market for two years. As you know, it normally takes 18 months to two years on a new operating system to see very integrated business solutions. In this time period we've begun to see that — there are now in excess of 800 individual titles of Amiga software. I'm told that two years into development that that is substantially more than, for example, what we saw in Macintosh early on in its development. We're seeing a lot of very good, very creative, very challenging software enter the marketplace.

Companies like WordPerfect have come into the marketplace and are seeing some astounding success in a very short time. WordPerfect has made it publicly known that, seven days after they announced their Amiga product, they had recouped all of their investment and the product was now paying for itself as a profitable contributor to their line. They currently enjoy very significant market share of what is quickly growing to be a very large base. By the end of the 1987 calendar year we'll have close to half a million installed base of Amiga products.

The installed base is getting sufficiently large that some very large companies can no longer ignore Amiga as a product line to write and develop for. They're also finding that with a very small investment they can enhance their current product to take advantage of the multitasking and the ease of use interfaces the product has, and it opens up a whole new market opportunity for them.

In addition to that,though,we've also taken some very proactive steps to try and encourage that. We have made some investments to establish a group whose entire job is to go off and support the third-party software community. We've established that group to provide support capabilities, we have exchanged engineers with different companies, to try to facilitate the transportation and development of other business software over to the platform of Amiga product technologies.

Would you want to encourage the porting of Macintosh programs to the Amiga?

There are some very good application packages done on the Macintosh, and very good application packages done in the DOS environment. We would like to encourage those people who believe that what is today a half a million installed base, a base that's growing exponentially — we'd like to see them port their products over. We are working with a lot of those people to make it easier, and we offer the opportunity to work with a lot of other people to make it easier. It's one of those things where I would like to see *any* good application package, regardless of what it operates on

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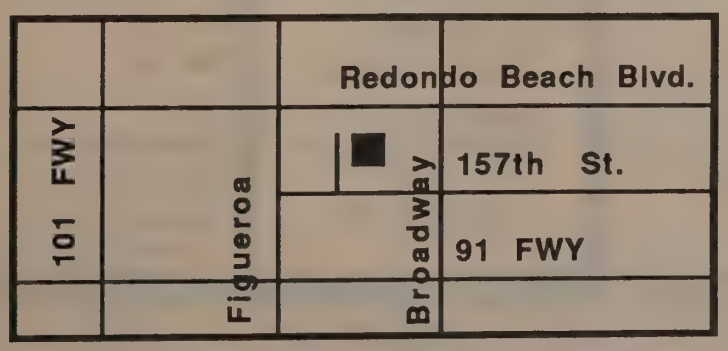

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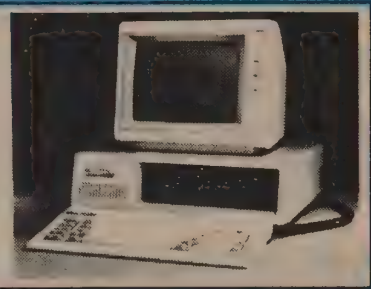

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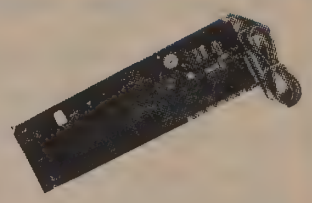

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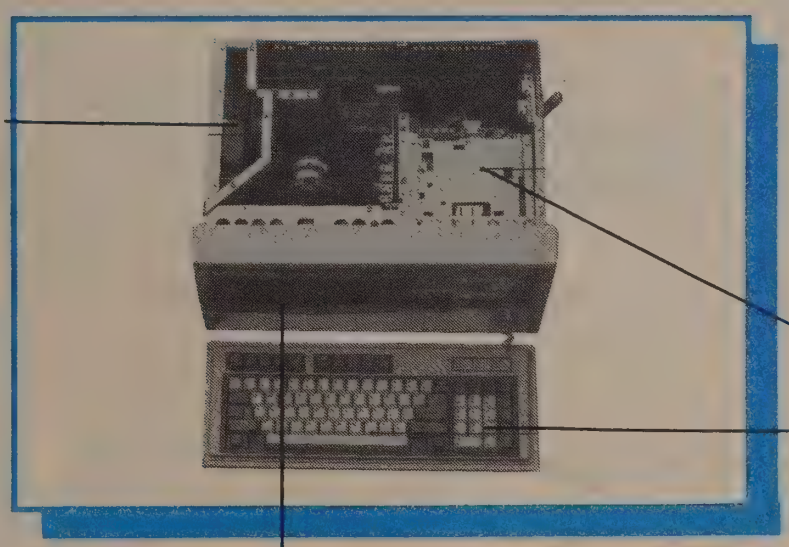

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now, moved over to our platform, and there are things we can and will do to make those things easier.

Leaving the 32-bit machines out of it, you still have various machines in the multitasking arena. What are the advantages of the Amiga 2000 versus, say, a 286 running Windows?

First of all, from its inception it was designed and optimized to be a multitasking system. There are a lot of products out there that are trying to run more tasks than one at a time, but that doesn't necessarily make them a multitasking computer.

It used to be a few years ago that the same engine blocks came down the line in Germany, and one went one way and became a Porsche, and another one went another way and became a Volkswagen. Then they were optimized for different things. Just because you're a 68000-based product doesn't necessarily mean that you were designed to be a Porsche. You may have been designed to go to the grocery store. So what we have chosen to do with the 68000 class of machines is optimize it for multitasking, because in any design effort you have to make certain tradeoffs along the way.

When you set out in the beginning to build a very efficient multitasking system, the performance capabilities and enhancements that you get are incredible. And it shows when you use an Amiga product. As far as I'm concerned, the biggest thing we've done wrong with the Amiga 2000 is we've priced it too cheap. For what that machine has the capabilities to do today, let alone what the platform provides for opportunities in the future, it is very well positioned from a price/performance standpoint, and it probably should have been more expensive.

After being at Commodore for about two months, what do you see as the things that Commodore has historically done wrong, and what do you propose to do to straighten those things out?

Well, with a company that has now become a profitable 800 million dollar company, it's hard to say that it's done a lot of things *wrong*. I think there are things that Commodore could've done, in retrospect, that Commodore, IBM, Compaq, Apple, could've all done differently. I think that our biggest focus has got to be on our market and understanding who our market is and how it's changing, our third party support teams, and our channels of distribution. I think that we will be able to restore a meaningful relationship with a lot of channels of distribution.

We have the opportunity today for the distribution channels to bring a different customer set to the marketplace than they have been exposed to in the past — there's a whole customer set out there that is not being served by some channels, and we can bring that back to them. We see that there is a resurgence in the retail side of the business.

It's almost unfortunate today, but in our channels of distribution retail's almost a dirty word. But there's an awful lot of product that's sold based on time and place availability, at the point of sale, and whether you call yourself a dealer or a VAR or a VAD or whatever, where you meet the customer, where you hand him the product and take the money — I'm not hung up on what category you put that in, as long as you're doing that. I think there's a tremendous opportunity for our distribution channels to reap the benefits of the investments we're making in technology, but also in the things we're doing to restore faith and confidence in Commodore's ability to run a multichannel of distribution business.

When the Amiga was first released, there was a lot of unhappiness and confusion among dealers about who could and couldn't carry the product. Has that more or less died down?

I really don't know. I *will* tell you that the people who are selling the product are making money and are happy with it, and we see our dealer base growing on a daily basis.

Desktop publishing was a niche that found its machine in the Macintosh. Do you see other niches like that for the Amiga?

We've seen a tremendous amount of growth and acceptance in desktop publishing. I can remember the first time I was at a conference and heard Steve Jobs begin to expound on desktop publishing, and everyone gave him this quizzical look...Here's a guy that continues to amaze me with his brilliance and his market perception.

But desktop publishing is really a subset of a bigger and more powerful market called desktop presentation. The significance of desktop presentation is that it does not limit you to the output media that you select. Desktop publishing is primarily printing. But there is a whole opportunity of other presentation capabilities — 35mm slides, sound, video, the integration of sound and video and computer technology together in a video presentation, a live presentation using the interactive computer system to enhance your presentation. It is in that area today that the Amiga offers probably the most advanced sophisticated total solutions of anybody in the marketplace. There are a lot of competitors out there who have established a position of desktop presentations, who are promising us other presentation capabilities, but it doesn't exist today in those areas. It does exist today in the Amiga product line.

You're seeing things happening — Max Headroom on television, they use an Amiga. You're seeing companies put their whole annual report on videotape. There's a company that did its entire five-year strategic plan on a videotape, and it was all done using an Amiga product. The communication that takes place, because of the utilization of more senses, is so much more sophisticated.

On the other kinds of spectrum, we see use of the technology in areas such as education. Ohio State University is doing a package on the Amiga where they teach signing for the deaf. They use the multitasking capabilities and the high graphics capabilities to enhance education and learning. We're seeing the product being used in the military, we're seeing it being used in a whole spectrum of places where you haven't seen that kind of productivity before, and that kind of creativity. There's a museum in New York devoted exclusively to computer-generated art, and the entire studio was done with the Amiga product line.

Are you interested in the university and education markets?

At one time, Commodore was *the* education computer. It owned the education marketplace. It's still the second-largest installed base in the education marketplace, primarily the 64 and 128. We still rank very highly as far as our annual sales.

I think you'll begin to see Commodore in a more aggressive role in that area, recognizing again that we have distinctive products for distinctive parts of the educational marketplace. We will make investments in K-8 as well as the higher education marketplace. We're seeing the benefits of some of those activities already.

Some of the old adages still hold true. It used to be said that for every machine you sold into the education marketplace you sold four as a result of that that were drag-alongs. That is still very, very true. So it's still a very strong marketplace and a very competitive marketplace. The 64 is still very viable, because it still brings more computing power for the dollar to the education environment than anything else.

We're also seeing Amiga's acceptance, and we're also seeing its acceptance and the development of some very sophisticated education packages on the Amiga. Recognizing that the education market has moved past the repeat drill exercise mode of learning. Amiga type technology and graphics allows you to enhance the learning process and reinforce the actual learning. It also involves more of the senses, and any time I can involve more senses in the learning process, I have a better chance for greater retention. We're working with some different companies to create and deliver tools that help involve the teacher and keep her or him involved in that process. Drill and practice is not enough reason to go and buy a computer in the education marketplace today.

What kind of act is Jack Tramiel to follow?

I don't know, he's been gone for three years... (laughs)

Jack Tramiel has got to be recognized as a leader in our industry, and you certainly have to respect what Jack has accomplished. He has gone on, built and restored a strong company. Atari's a fine company in a very competitive marketplace.

But Commodore is not Jack Tramiel's company today, and it won't be tomorrow. The success that Commodore is going to have in the marketplace is dependent on what Commodore does today and tomorrow, and that's the opportunity that we have in front of us.

I'm never going to take shots at anybody. One of the greatest learning experiences I ever had was when IBM sent me to Harvard as part of their executive MBA program. You sit there and get to go through the case studies with the professor and all the students, and just literally rip this poor guy up one side and down the other. And it became very apparent to me how easy it is to be critical and second guess and question somebody else's efforts. I've learned that people in business make the best decision they can. No one intentionally sets out to make a bad decision. They try to do the best they can with the best information they have, and do what they think is right.

Now not everybody is right all the time. But they try. And yet we sometimes become very critical, and it's easy to sit back and look at what somebody did two or three years ago and take a shot at it.

It took me a long time to learn that it was okay to make a mistake. They asked the president of 3M one time, what's the key to your success. And he says, well, my right decisions made more money for the company than my wrong decisions cost it. That was the key to my success.

You look at people like Tramiel, and Steve Jobs — I mean, who can question what they did? They did what they thought was right. And Steve Jobs will be back. Jack Tramiel *is* back. There will be other people back too.

Commodore is a different company today, and I guarantee it's going to be a different company tomorrow. It's a company that recognizes that we are a service company. See, a lot of people look at us and say we're a computer company. We're not. We trade computers for dollars, but if you really understand what the business is, we're a *service* company. And as long as we keep that in sight out in front of us, then we will be successful. Because there's a whole lot of people out there that believe in Commodore, have acted on Commodre and bought Commodore, and have built up confidence in us, and all we've got to do is take care of them, and then they'll take care of all the other problems for us. □

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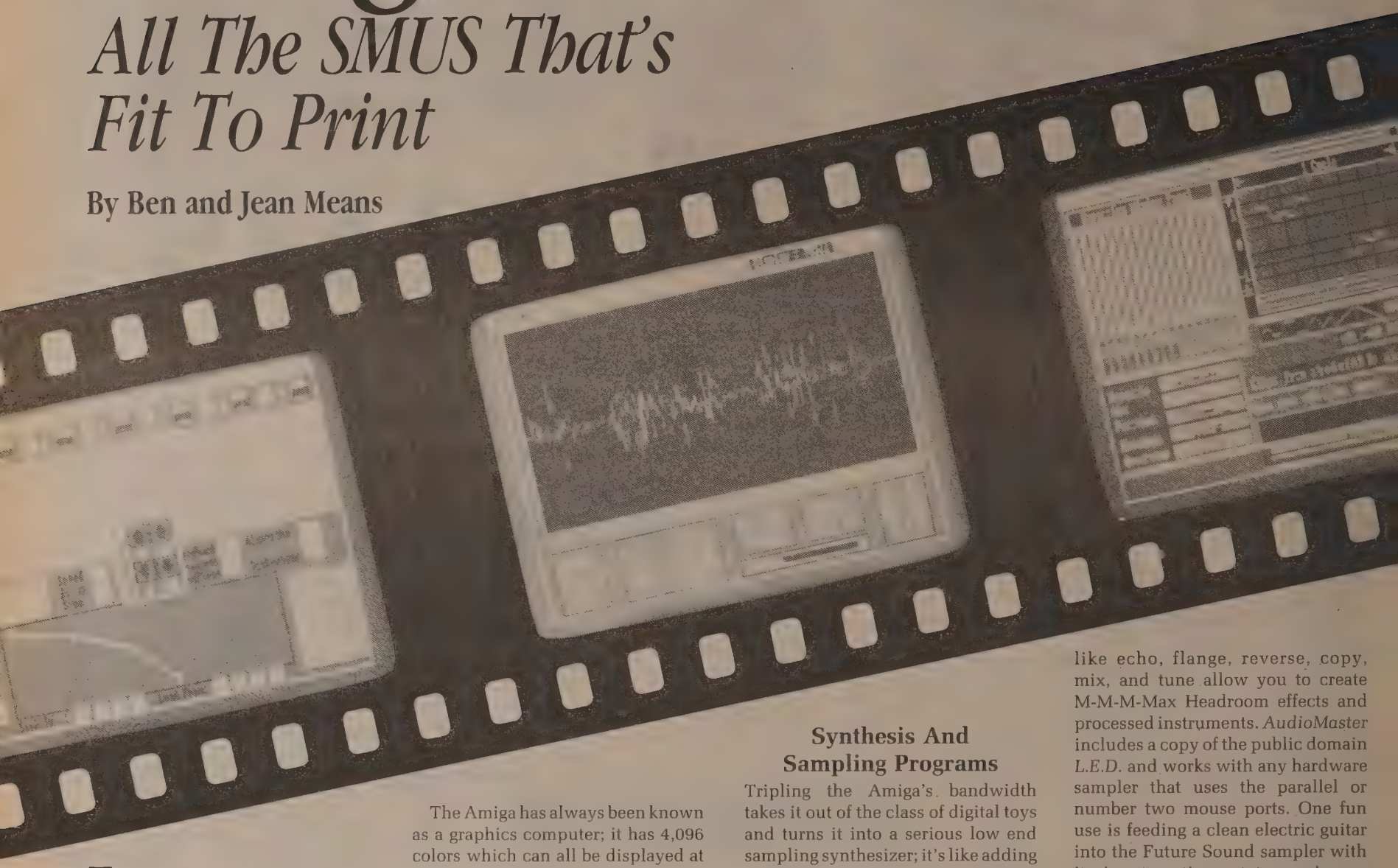
Amiga Music:

All The SMUS That's Fit To Print

By Ben and Jean Means



It was dreary at the '87 Winter NAMM show; dreary that is, if you were a musician with an Amiga. Trudging up and down the aisles, you'd hear one reason after another why Mac and ST developers haven't ported their fine products over to the Amiga. "Not enough interest in it," said one. "Omega, isn't that a graphics computer?" asked another. One bright-looking young programmer pulled us aside and said, "Will you please talk to our marketing director? I'd love to do some Amiga music programs, but they've got me chained to a Mac!"

Clearly, revolt was in the air. An entire generation of programmers had been afflicted with permanent squints from gazing at nine inch monochrome monitors for too long. When Commodore introduced the low-priced Amiga 500, it began selling like umbrellas in a rainstorm. Thousands of Amiga owners cried out in dismay, "*Instant Music* is fun, *Sonix* is neat, but we need professional music programs to fulfill our creative potential!"

The Amiga has always been known as a graphics computer; it has 4,096 colors which can all be displayed at one time through special HAM imaging and a built-in blitter for fast animation; it's the only personal computer to provide a built-in NTSC video out for video production. Those who have been waiting for the Amiga to fulfill its musical potential, however, have not waited in vain. Some of the best Mac, ST and IBM music programs have been ported to the Amiga, and new Amiga-specific products are beginning to appear.

One program that has changed the face of Amiga music single-handedly is *L.E.D.* This public domain program by Mark Riley, who also wrote *Sonix*, turns off the anti-alias filters on the audio output of the A500 and A2000 and extends the Amiga's dismal 4K frequency range to a musically useful 12K. The tradeoff is more treble, along with more aliasing noise, but it's well worth it. The extra high end adds crispness and a live feel that must be heard to be believed. Best of all, since it's P.D., it's free! Unfortunately for A1000 users, A1000 anti-alias filters are hardwired, and *L.E.D.* has no effect on them.

Synthesis And Sampling Programs

Tripling the Amiga's bandwidth takes it out of the class of digital toys and turns it into a serious low end sampling synthesizer; it's like adding a four voice keyboard to your rack.

Now that you have four voices with plenty of high end and the Amiga's powerful custom sound chip, what are you going to do with them? Push them to the max with overdrive and some nifty new software!

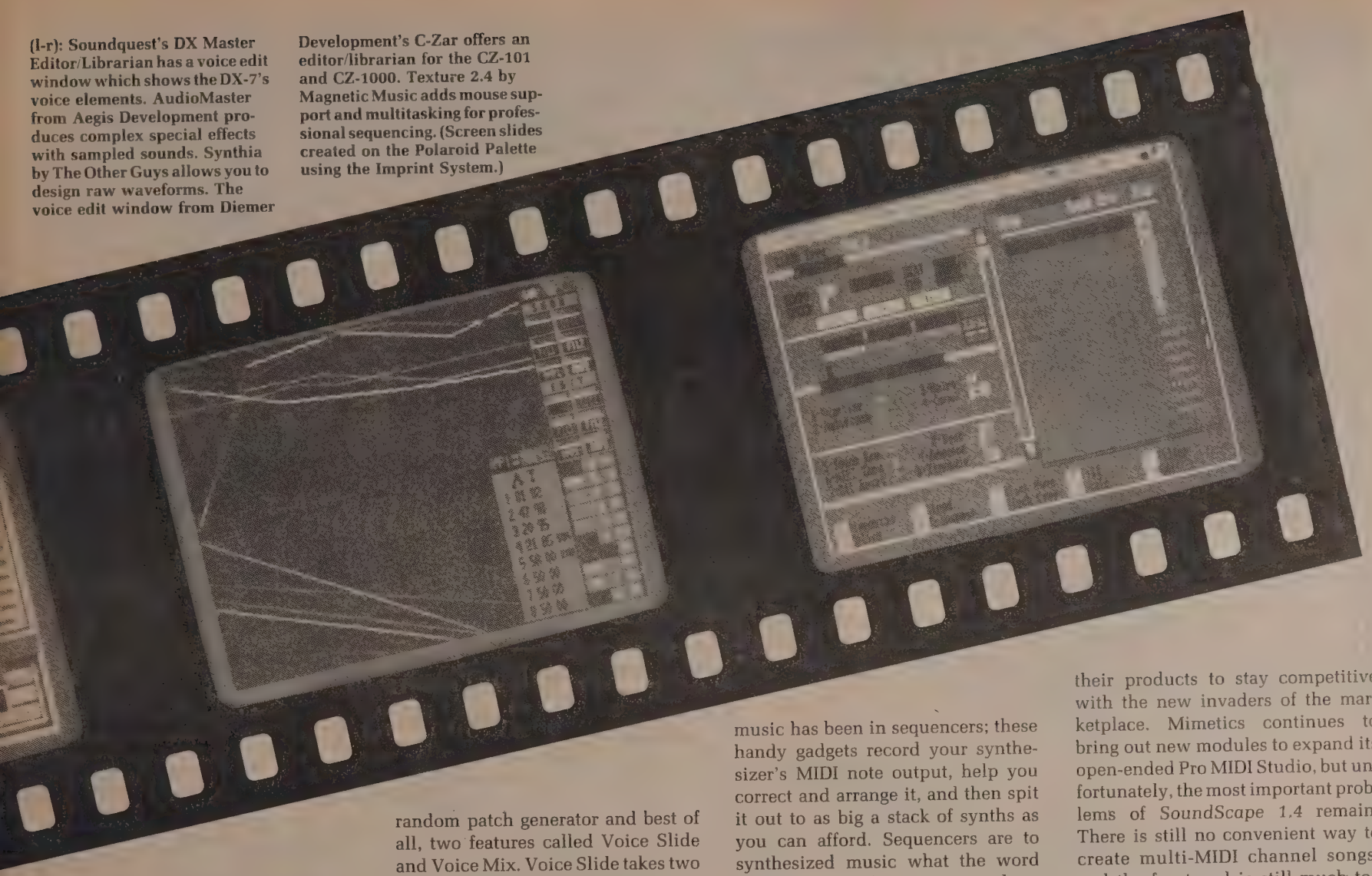
AudioMaster by Aegis Development ($59.95) is an amazing sampling program, and the first that lets you use sound samples larger than the 512K limits of "chip" RAM. Two and a half megs of RAM yield a minute and 40 seconds of music quality sampling at a 20K sampling rate or an ear-boggling four minutes of speech quality sampling at an 8K sample rate. There's even half a meg left over for software applications! Plans are afoot for Amigas to run color animated commercials in several California retail chains; *AudioMaster* will drive a two minute audio track, replete with wild sound effects to rivet the attention of children and terrify unwary shoppers.

AudioMaster has truncate, edit and loop features on an oscillograph-style visual display. Special effects like echo, flange, reverse, copy, mix, and tune allow you to create M-M-M-Max Headroom effects and processed instruments. *AudioMaster* includes a copy of the public domain *L.E.D.* and works with any hardware sampler that uses the parallel or number two mouse ports. One fun use is feeding a clean electric guitar into the Future Sound sampler with its input section set to maximum; this yields a very nice distorted rock guitar sound. Then add flange and echo with *AudioMaster* and turn the entire sample backwards. Hendrix never had it so good!

Synthia by The Other Guys ($99.99) is a synthesizer on a disk that does additive, subtractive, interpolative, plucked string and percussive sound synthesis. Although its approach is not terribly intuitive, it is possible to create virtually any kind of instrument sound with *Synthia*. You can apply the amplitude envelope of a duck to a guitar sound and get a quacking guitar! Create plucked oboes, bowed pianos or whatever other sonic abberations your music requires and your neighbors will stand. These sounds are stored in IFF format and can be used by any program that uses IFF sounds, such as *Sonix* or the *Mimetics Sampler*.

Editor/Librarian Programs

On the modular synthesizers of the '70s, there was a knob for every func-



(l-r): Soundquest's DX Master Editor/Librarian has a voice edit window which shows the DX-7's voice elements. AudioMaster from Aegis Development produces complex special effects with sampled sounds. Synthia by The Other Guys allows you to design raw waveforms. The voice edit window from Diemer Development's C-Zar offers an editor/librarian for the CZ-101 and CZ-1000. Texture 2.4 by Magnetic Music adds mouse support and multitasking for professional sequencing. (Screen slides created on the Polaroid Palette using the Imprint System.)

tion. With the colossal complexity of today's Yamaha DX-7, you have to attempt to tame the digital beast with only a data slider and two buttons. Patch programming adds the anguish of Sisyphus to the labors of Hercules. Bo Tomlyn thus makes a handsome living selling synthesizer patches to DX-7 owners too frustrated or confused to create their own.

A well-designed editor/librarian lets you see all the disparate elements that make up a synth sound to help you create sounds more quickly and easily. Then you can organize them in banks and save them to disk for later recall. With today's increasingly complex synthesizers, an editor/librarian program can help make your synth a treasured possession, instead of a projectile out your bedroom window.

Six months ago, there were no Amiga editor-librarian programs for popular synthesizers or samplers. Now there are no fewer than eight.

C-Zar by Diemer Development ($195) is an editor/librarian for Casio's popular CZ 101 and CZ 1000 synthesizers. *C-Zar*'s visual readout really helps make sense out of the job of programming the CZs six, eight rate/level envelope generators. It also lets you store eight tone mixes, instead of the Casio's one.

Sound Quest has some excellent editor/librarians for the DX-7 ($145), DX-7 II ($175), and the Roland D50 ($160), as well as a generic librarian. These are very well-designed editors with lots of envelope displays for visualizing the complex patches these machines can produce. They have a random patch generator and best of all, two features called Voice Slide and Voice Mix. Voice Slide takes two patches and creates 30 patches in between (62 on the D50); each succeeding slot uses a little more of the one patch and a little less of the other. Voice Mix randomly mixes any 50% of one patch and 50% of another.

For those of us who don't have the time, energy or interest to become a patch programming wizard, these random and semi-random methods bring hope to a hopeless situation. These restless Canadian programmers will soon be adding editor/librarians for the Casio CZ series, Roland MT-32 and Yamaha TX 81Z.

Mimetics has an unreleased librarian module for *SoundScape* ($79.95), which contains three librarian programs: a DX/TX librarian for the Yamaha DX-7, TX-7 and TX816, a Yamaha FBO1 librarian and a CZ-101 librarian. There is also an unreleased DX/TX editor ($79.95), and an FBO1 editor ($79.95), but we are wondering, through the cloudy vapor of software promises, when we will see them.

Blank Software has ported over its *Sound Lab* ($299.95) sampler editor from the Mac. *Sound Lab* gives complete control over editing and looping sounds on the Ensoniq Mirage sampler.

Triangle Audio's Jack Deckard has moved out of the C-64 ghetto and into Amigaville with his FBO1 Data Filer editor/librarian for Yamaha's FBO1 sound module. All good things do not come to an end, and there are more editor/librarians on the way.

Sequencers

The biggest explosion in Amiga music has been in sequencers; these handy gadgets record your synthesizer's MIDI note output, help you correct and arrange it, and then spit it out to as big a stack of synths as you can afford. Sequencers are to synthesized music what the word processor is to the written word.

This time last year, the musician only had two choices for sequencing on the Amiga: *Texture* by Magnetic Music or *SoundScape* by Mimetics. Now there are three new players in the Amiga sequencer market and rumors of more on the horizon.

M by Magnetic Music ($200) is an algorithmic sequencing program that uses elements of artificial intelligence. This port-over from the Mac allows you to record your ideas, then play them back while introducing controlled variations of timing and note selection. This lets you generate fresh new ideas from stale white bread themes. *M* caused quite a stir on the Mac market. These kinds of interactive compositional programs are possibly the future of synthesized music.

Dr. T's Keyboard Controlled Sequencer ($225) is an ST portover by David Silver. *KCS* is a versatile sequencer that lets you overlap sequences in open mode or take a traditional drum machine approach in the track and song modes. *KCS* is best known for its many ways to do MIDI editing.

MicroIllusions is bringing out *Music X* ($299.95), which will be the first attempt at a serious Amiga-specific sequencer since *SoundScape*. If *Music X* lives up to the hyperbole in its pre-release ads, it should be an impressive addition to the Amiga sequencing arena. In addition to sequencing, it also supports keyboard mapping and patch editing.

Meanwhile, Mimetics and Magnetic Music have continued to upgrade their products to stay competitive with the new invaders of the marketplace. Mimetics continues to bring out new modules to expand its open-ended Pro MIDI Studio, but unfortunately, the most important problems of *SoundScape* 1.4 remain. There is still no convenient way to create multi-MIDI channel songs, and the front end is still much too complex for the casual user. The Fast Tracker front end is a lobotomized 16 track sequencer which is fine as far as it goes, but it does nothing to make *SoundScape*'s deeper commands more accessible or friendly.

At long last, Mimetics has released *SoundScape*'s first disk of modules called *Utilities I* ($49.95). This disk contains eight mini-programs that can be installed in *SoundScape*'s Patch Panel. Mouse Bender turns mouse movement into any kind of MIDI information you choose. Mapper/Splitter turns any MIDI input into any MIDI output to create keyboard splits, patch mapping and more. Clock Scaler lets you drive devices that run in times other than the MIDI standard 24 pulses per quarter note (ppqn). Frame Counter creates a hit list for film work, and System X is a generic patch librarian. Fuel Gauge shows both chip and total system memory, and Smooth Clocker is an improved, more accurate MIDI clock. Finally, Install Modules builds any or all these modules permanently into the SoundScape patch panel.

Coming soon is *Utilities II* with more features than you can shake a drumstick at. *Pattern Splatter* ($49.95), an algorithmic composition tool, and *Quantize* ($79.95), a visually oriented quantizer-scaler, have been sitting for months on a lonely shelf gathering dust, while Mimetics procrastinates on their final packaging.

The most desperately needed module for *SoundScape*, however, is one that would organize *SoundScape*'s various elements into one cohesive,

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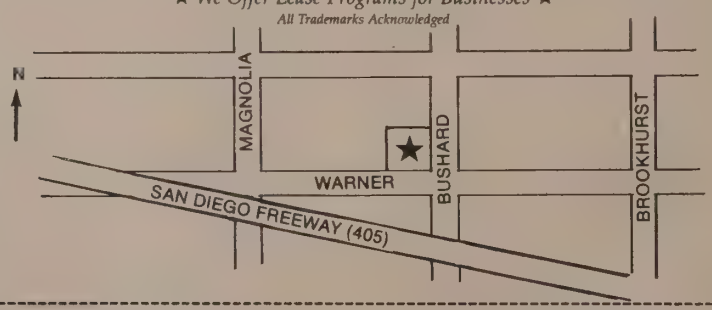

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usable whole.

The door isn't closed on *SoundScape*, however. Its programmer, Todor Fay, is a prodigy who lives a nearly monastic existence on the edge of the California wilderness. Fay sits at a battered Amiga 1000, one of the first ever made, in front of a window overlooking a mountain and dreams in cerebral silence of *SoundScape Version 2.0*.

Excellence is often overlooked, and many an Amiga musician doesn't know that *Texture*, by Roger Powell and Ralph Bellophato of Magnetic Music, even exists.

Texture's second and only other major stumbling block is its cost. *Texture* ($299, plus an MIF-AMG adapter at $125 and a Roland MPU-401 at $295) is expensive. *Texture* continues to improve with age, however.

Since its humble beginnings as an eight track sequencer, Magnetic Music has continually upgraded this sequencer. The current 2.4 Amiga version has 24 tracks with a host of fast, easy features to forge an idea into a song while the iron is hot. This speed is crucially important in film scoring, as well as television scoring with its brutal show a week pace.

Although the MPU-401 is expensive for a MIDI interface device, it provides two important MIDI features besides MIDI In and Out. One is an audible metronome without using up an Amiga voice and, even more importantly, it includes FSK tape sync. FSK tape sync allows a sync tone to be laid to a multitrack tape recorder, so that overdubs can be done in complete synchronization. Both Mimetics and MicroIllusions have promised long-awaited SMPTE sync devices, but until they are delivered, *Texture* is the only Amiga music product that comes with tape sync.

This IBM port has been updated in Amiga version 2.4 to include mouse support and multi-tasking. *Texture* uses the parallel port for MIDI, whereas most other music programs use the serial port. The Amiga has the intriguing ability to run two separate MIDI systems simultaneously. One system could be used to drive automated mixing outboard effects and lighting, while *Texture* is running sequences and patch changes at the same time! If you tried to perform all these functions with one MIDI system, the inevitable result would be MIDI log jamming; your intricate timing cues would be reduced to rubble due to MIDI's limited 31.25 bandwidth. *Texture* can also run simultaneously with *SoundScape* to ease your troubles, cure your headaches and access *SoundScape*'s almost unlimited power more easily.

Texture is our sequencer of choice, as well as the choice of Jan Hammer, who used *Texture* to write those stirring scores for *Miami Vice*.

Multi-tasking transforms the Amiga computer into a wild and crazy complete music studio. At one point, we were running *Texture 2.4*, *SoundScape 1.4*, *Music Mouse* and the Sound Quest DX7 Master Editor/Librarian simultaneously with no appreciable problems. We could have run a notation editor at the same time, but *Deluxe Music Construction Set* from Electronic Arts had a read/write error on the disk. With the new A2000 bridge card, you could also run Jim Miller's *Pro Composer* notation program from the IBM.

Amiga sales have skyrocketed with the introduction of the Amiga 500 ($695). At year's end, sales had reached the half million mark, and by 1989, reports say Amiga sales will have surpassed the total installed base of C64's and 128's worldwide.

After a long stint as the ugly duckling of music microcomputers, the Amiga is beginning to look like a swan. With its ability to run several programs simultaneously and its four voice sampling/synthesis section, the Amiga has always held musicial promise. Now at last, it looks like that promise will be kept. □

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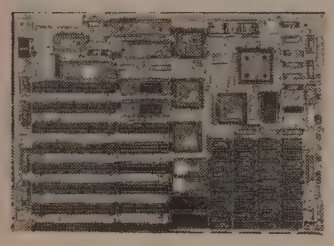

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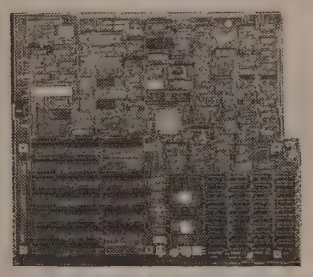

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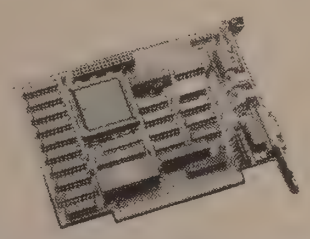

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MAC @ WORK

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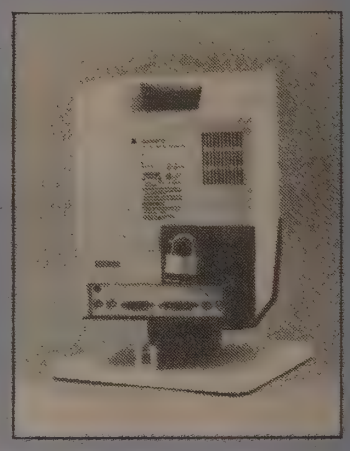
Not for the faint of heart, Acius' revolutionary database manager offers unprecedented power and flexibility in Mac-based information management.



Macintosh Buyers Guide 56, 59, 106
From books to LANs, products to help you use your Mac on the job.

Stepping Out

An Inexpensive Alternative To The Full Page Display

By Robert Beauchamp

As desktop publishing becomes more and more popular, and as more and more vendors enter the market with their high-priced printers, scanners and full page displays, it's easy to feel like a street urchin with his nose pressed up against the toy store window. So many wonderful toys, and so little money.

If your Macintosh budget resembles a pocket with a hole that your last nickel just fell out of, you probably have resigned yourself to making do with the equipment you have and thumbing through the magazines saying to yourself, someday...someday, maybe.

This is especially true of full page displays. There are so many excellent products, but how can you justify buying one when you're still saving up for a laser printer and need to upgrade your memory?

For those who find themselves frustrated by the Mac's small screen when doing desktop publishing, spreadsheets or using paint programs, *Stepping Out, The Macintosh Screen Extender* is an inexpensive software solution to a common problem — and the only solution we know of for under $100.

As often happens in this industry, the technology developed to solve one problem can also go on to solve others. Berkeley System Design, the makers of *Stepping Out,* developed a technology called in-LARGE to aid visually impaired people in using the Macintosh. They soon discovered that that the same process could be used to simulate a full page display.

Stepping Out tricks your Macintosh into thinking

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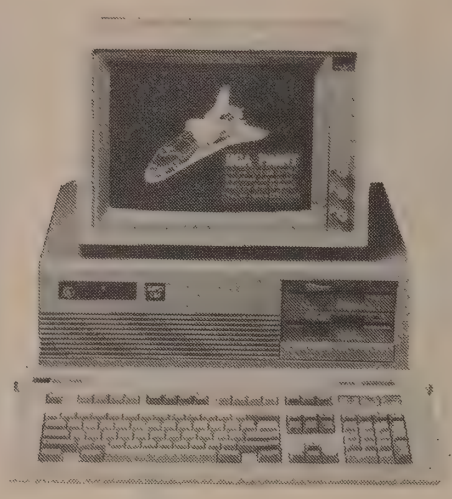

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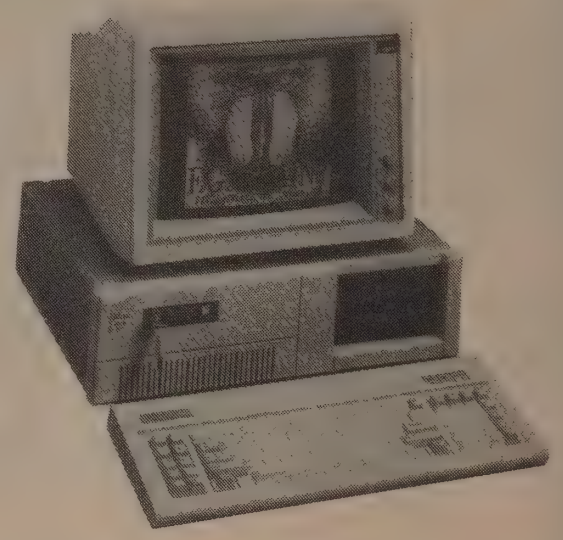

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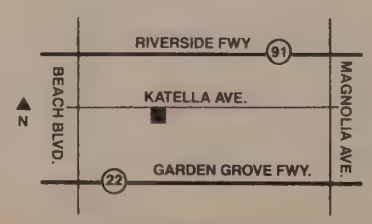

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For those who find themselves frustrated by the Mac's small screen for desktop publishing, spreadsheets or paint programs, Stepping Out is an inexpensive software solution to a common problem — and the only solution we know of for under $100.

it's writing to a full page screen display. While Macintosh applications ordinarily draw directly to the screen, *Stepping Out* fools the Mac into drawing onto a larger screen in the Mac's memory. *Stepping Out* then copies parts of the illusory big screen to the Macintosh display. The copying is so fast that when you move your cursor the movement appears smooth — instead of having to slowly scroll through a document you zip across the "full screen" in an instant.

In addition to letting you zip around a "full" screen, *Stepping Out* lets you reduce any part of the screen you wish two to four times smaller and enlarge any part from two to sixteen times larger than the original. This makes it easy to see a miniature of your page layout, as well as do pixel-by-pixel detail work on your paint files.

You can customize the size of the page to any size you need. *Stepping Out* defaults to 572 x 720 or 8" x 10", the standard paint file screen size. Other common sizes are 640 x 864, the typical size of a full page display and 1024 x 1024, the typical workstation display size.

Stepping Out can be used with almost any Macintosh software product. Some products, however, do not take advantage of full screen capabilities. *MacPaint* and *MacWrite,* for example, make assumptions about the screen size that *Stepping Out* cannot change. If you're not sure if *Stepping Out* will work with your favorite program, call Berkeley System Design; they will be happy to answer any of your questions.

Since it can be used with so many products, *Stepping Out* can play a role in a variety of computer tasks. We used *Stepping Out* with paint programs such as *SuperPaint* and *Cricket Draw,* in word processing with *MS Word,* in page make-up with *PageMaker* and even with the science fiction game *Reach For The Stars.* We encountered no problems in using *Stepping Out* with any of these applications, and were impressed by the added productivity it offered in using these programs.

Paint Programs

One of the most frustrating aspects of using paint programs on a Macintosh is the small screen area you have to work with. Scrolling, especially with complex paint files, can be tiresome. Moving from the regular screen to the fat bits screen is also slow. You go to fat bits to do pixel-by-pixel detail work, and must return to the regular screen size to see what effect your changes have made on the picture. Paint programs, therefore, are an ideal environment for *Stepping Out.*

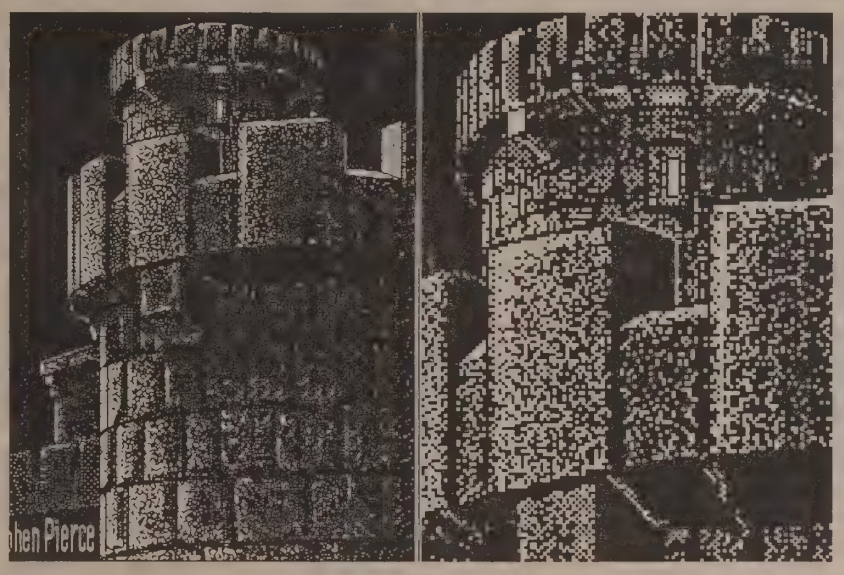
Before starting up your paint program you double click the *Stepping Out* icon from the menu. While memory resident, *Stepping Out* is not like a desk accessory that automatically boots when you turn on the computer. You must start it up whenever you power up. It will, of course, remain operational until the computer is turned off. Some may see this as a disadvantage, but it makes sense in that you may not want to use *Stepping Out* every time you turn the computer on.

After clicking the icon *Stepping Out* takes you to a dialog box that holds the screen size information. If you have already set the screen size you want, ignore this, and *Stepping Out* returns you to the desktop. If you wish to change the screen size, you click once and then fill in the appropriate blanks on screen.

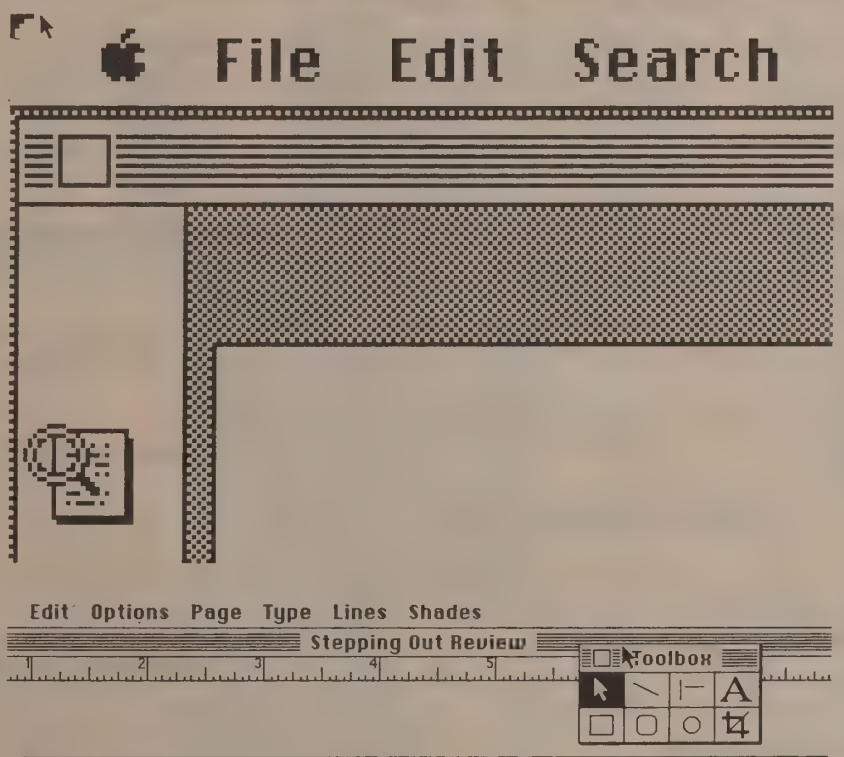
Once back to the desktop you'll notice that the desktop has grown larger. The disk icons and the trash can icon and some dialog boxes are off the Mac's screen. By moving the cursor you can find these icons on the outer edges of your extended screen.

Once *SuperPaint* is open the screen looks somewhat different than usual. As with the desktop, some menus are off the screen. To find the patterns bar you must move the cursor all the way down to the bottom of the "full page." This takes some getting used to at first, but the major benefit of *Stepping Out* is that beautiful expanse of white space on which to draw.

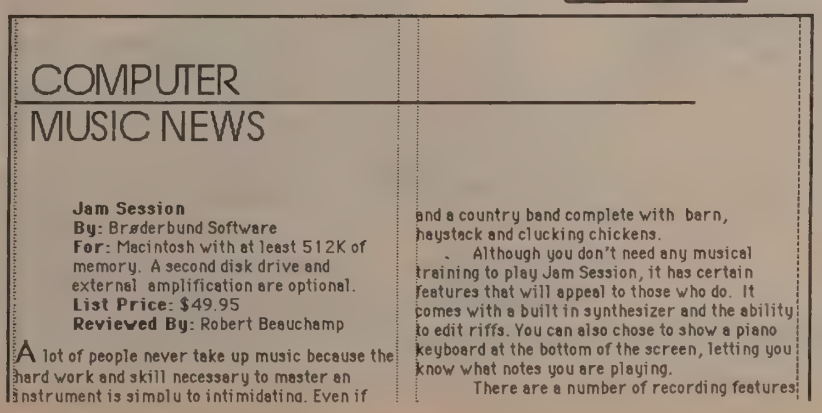
It takes a mere fraction of a second to move from the top of the full page to the bottom, even if there is a large and complex drawing on the screen. Compared to the amount of time it would take you to scroll this distance, it is well worth the slightly awkward positioning of the dialog boxes and menus.



Stepping Out lets the user enlarge the area around the cursor. This split screen configuration is especially useful when doing detailed pixel by pixel work in programs such as SuperPaint.



The user can make Stepping Out's enlarged view fill the entire page. Stepping Out allows the user to enlarge the screen from two to sixteen times as well as reduce the screen two to four times.


COMPUTER
MUSIC NEWS

Jam Session
By: Brøderbund Software
For: Macintosh with at least 512K of memory. A second disk drive and external amplification are optional.
List Price: $49.95
Reviewed By: Robert Beauchamp

A lot of people never take up music because the hard work and skill necessary to master an instrument is simply intimidating. Even if

and a country band complete with barn, haystack and clucking chickens.

Although you don't need any musical training to play Jam Session, it has certain features that will appeal to those who do. It comes with a built in synthesizer and the ability to edit riffs. You can also chose to show a piano keyboard at the bottom of the screen, letting you know what notes you are playing.

There are a number of recording features

Stepping Out's full screen extension capabilities make working in page make-up programs such as PageMaker much easier. By designating the screen size you wish to emulate, Stepping Out tricks the Macintosh into thinking it's writing to a full page display.

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When you wish to see the position of your picture in relationship to the page, you can instantly reduce the view by pressing option-command-space bar. You will see either a two- or four-fold reduction. To get the other reduction size press option-command-x. Unlike some programs *Stepping Out* doesn't use the full screen to show the reduction. It splits the screen in two, letting you see where your cursor is on both screens.

This split screen feature proves to be extremely useful when you want to do detailed work with individual pixels. On one half of the screen is the enlarged view and on the other the normal view. Since the arrows on both screens are pointing at the same pixel, if you change a pixel on the enlarged version you can see it change on the normal view.

To enlarge the view you simply you press option-command-x. Each time you press x, the screen enlarges the area around the cursor by another factor. You can do this until you find an enlargement that you are comfortable with.

Once you know the size enlargement you like to work with you can also simply press option-command and a number from two through sixteen. This enlarges the area from two to sixteen times.

To return from a reduced or enlarged view to the normal view you press option-command-space bar.

For those truly proficient with working with individual pixels, you can make the reduction or enlargement fill more than half the screen. You press option-command-R and then use the mouse to move the line marking the outer edge of the magnificent area. You can cover any amount of the screen you desire.

Desktop Publishing

The major reason most people purchase full page displays is to supplement their desktop publishing system. Full page displays offer convenience and perspective in an often-hurried production schedule.

The time saved when working with a PageMaker document is amazing. Since the work area can be adjusted to the exact size of a PageMaker page, there is no scrolling, only the effortless glide of the cursor across the document.

Stepping Out also offers these advantages. The most dramatic impact we saw on productivity was in this area.

Page make-up programs like *PageMaker* are big and unwieldy. They take up a lot of memory and scrolling from the top of a page to the bottom can be excruciatingly slow. The small Mac work area makes it impossible to get a grasp of what your entire page looks like. Since *PageMaker's* whole page view only offers grey bars that represent type rather than the type itself, this also makes it difficult to see exactly what your page looks like. You are trapped between too much or too little. While *Stepping Out* does not possess all of the features of an actual full page display and accompanying software, it does help solve these two major problems.

It is necessary to emphasize the ease in which the cursor can move from one part of the page to another. The time saved when working with a *PageMaker* document is amazing. Since the work area can be adjusted to the exact size of a *PageMaker* page there is *no scrolling,* only the effortless glide of the cursor across the document.

You can even make the *Stepping Out* screen large enough to accommodate two facing pages. This is not recommended, however, for everyday cutting and pasting, as menus and tools are too far away from each other to be used conveniently.

Conclusions

Stepping Out is a little product that makes its presence felt in a big way. While offering a boost in productivity it only takes up 18K on your disk and uses around 80K of RAM, depending on the screen size you choose. It does take a little while to get used to the added screen size, and there are moments of panic when your Mac seems to freeze due to a dialog box that's demanding a response being off the screen. However, the small amount of effort expended with *Stepping Out* will be more than rewarded with time saved when working with applications.

In this world of increasingly sophisticated and expensive equipment, *Stepping Out*'s price of $95 means that it is not only a great product but also a great bargain. (Berkeley System Design, 1708 Shattuck Ave., Berkeley, CA 94709. (415) 540-5536. *Stepping Out* is for The Macintosh 512K, Plus and SE.) □

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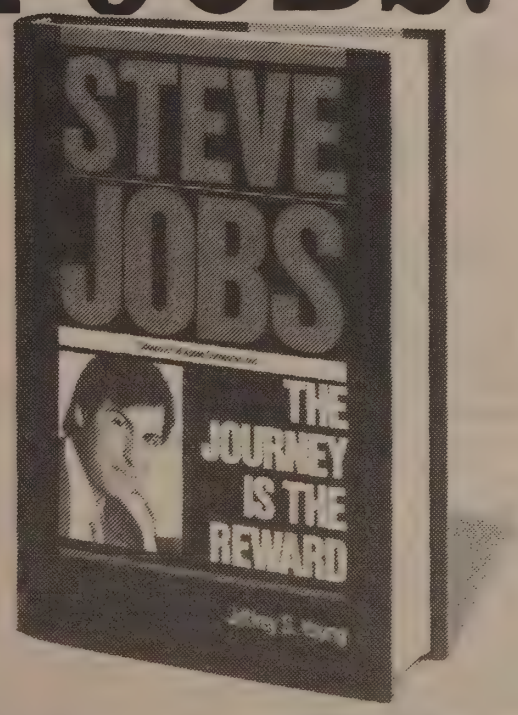

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The 4th Dimension Database

By Jim Wolcott

In the Macintosh software world, 1987 may well be remembered as the year of the relational database. The year saw the introduction of Ashton-Tate's *dBASE Mac,* Borland's *Reflex Plus,* Nantucket's *McMax,* and Acius' *4th Dimension.* Of this distinguished group of products, *4th Dimension* was perhaps the most anxiously awaited — and most controversial — piece of software ever to hit the Mac screen.

4th Dimension's evolution is as interesting as the program is powerful. French programming prodigy Laurent Ribardière conceived *4th Dimension* while developing customized applications for business. The early fruits of his efforts were astonishingly good: in fact, good enough to catch the attention of the powers-that-be at Apple Computer, Inc. Apple joined into the development effort, and, about two years ago, the first versions of *4th Dimension* appeared on the French market.

Apple's intention to bring *4th Dimension* to the United States brought an uproar from the Macintosh development community. Ashton-Tate, well along in its creation of *dBASE Mac,* issued sufficient complaints that Apple elected to drop its plans to market *4th Dimension.* In the end, the rights to the program reverted to the original developers: ACI of France. ACI elected to set up a U.S. subsidiary (hence the name, ACI, "US"), and found little resistance in recruiting two of Apple's key personnel: former Software Evangelist Guy Kawasaki as president, and the former head of Apple's Tech Support Department, Scott Knaster.

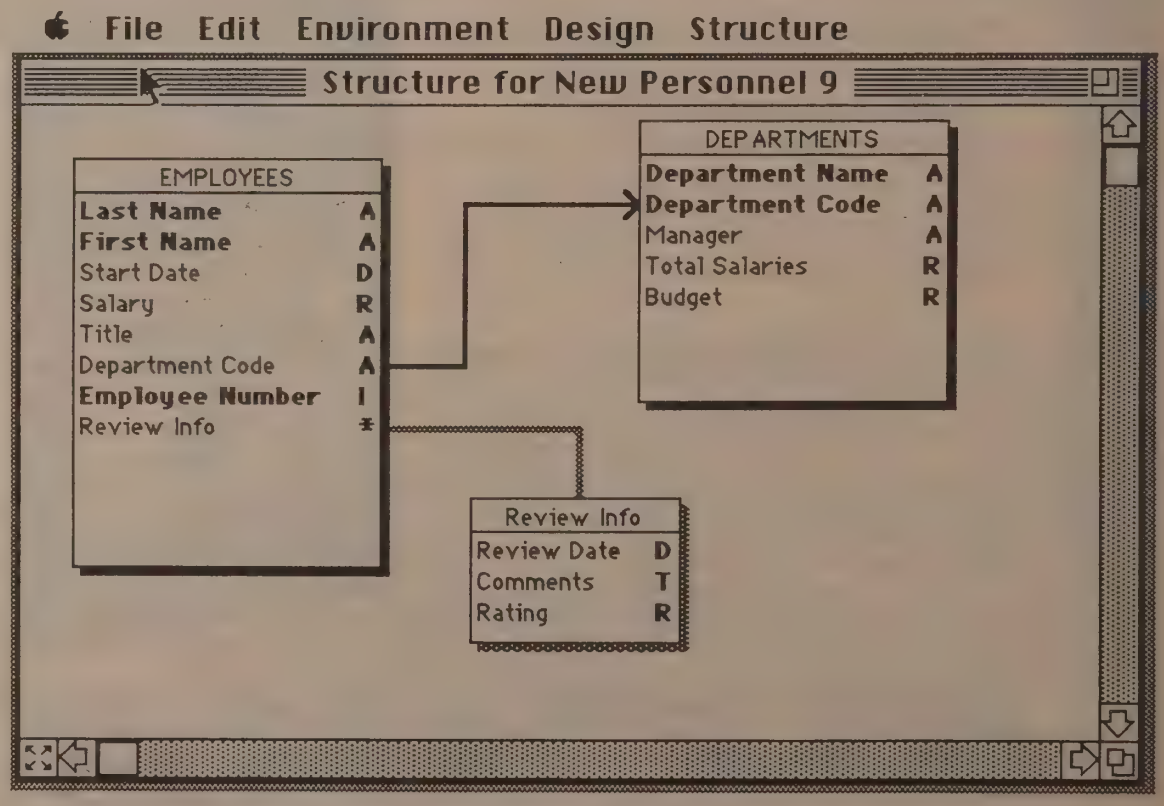
Emerging from this firestorm of controversy, *4th Dimension* was an immediate hit among Macintosh database programmers on its release last summer. And with good reason: the power and features resident in *4th Dimension* border on the unbelievable.

With sufficient RAM memory (and a big enough hard-drive), *4th Dimension* will support up to 16 million records, with 99 data files accessible *at the same time.* Each file can have up to 511 fields, and up to 511 sub-files. In addition, each sub-file can support up to 511 sub-fields.

The features list goes on. For data input and output, "layouts" are employed, with access of up to 32,000 user-defined object-oriented layouts. A hierarchical password system allows 32,000 levels of data security. Sophisticated import/export filters are available, for data interchange in SYLK, DIF, and text, for Macintosh, IBM PC, and mainframe systems. *4th Dimension* can also take control of the Macintosh's serial ports for data input and output.

More important than the power and flexibility of *4th Dimension* is its ability to create "stand alone" applications. *4th Dimension* incorporates a sophisticated programming language, including more than 200 built-in routines and operators. Once a database has been programmed in *4th Dimension,* the user can merely double-click to enter a custom program — indistinguishable from any other Macintosh application. Once the database is launched, the user can be presented with pull-down menus to access the various facets of the program. In a business environment, employees don't need to be trained to run *4th Dimension:* they merely pull down the menu relating to the task at hand, and enter the required data.

Last, but not least, is *4th Dimension*'s multi-user capability. When connected over an AppleTalk, or EtherNet network, *4th Dimension* allows data-entry



Sample database Structure in 4th Dimension, showing Linked Files.

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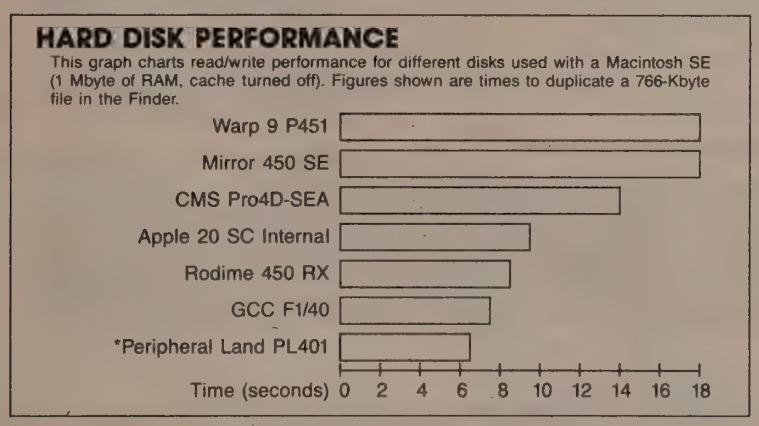
HARD DISK PERFORMANCE
This graph charts read/write performance for different disks used with a Macintosh SE (1 Mbyte of RAM, cache turned off). Figures shown are times to duplicate a 766-Kbyte file in the Finder.
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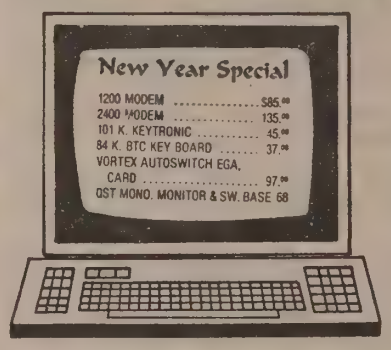
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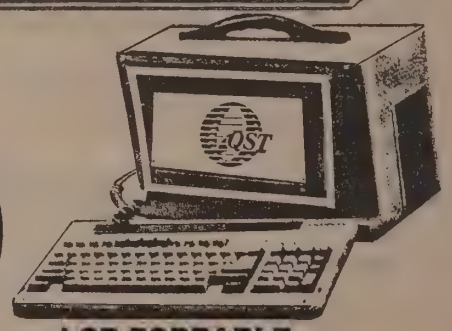

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Just how powerful is *4th Dimension*? One developer created a *4th Dimension* application for travel agencies in Belgium. Custom pull-down menus accessed information about flight times and seat assignments. "Static" information about flights was stored on the Mac's hard-disk drive: "Dynamic" information (such as availability of seats) was stored in a VAX. *4th Dimension* would automatically retrieve information from its files, or send requests to an *Oracle* database system on the VAX. *Oracle* would then query the VAX, and send back the requested data for *4th Dimension* to display. The operation was completely transparent to the user, who didn't have to worry about anything other than the pull-down menus of *4th Dimension.*

A computer retailer in the San Jose area is putting the finishing touches on a *4th Dimension* system to handle point-of-purchase and inventory control. Merchandise in the store is tagged with bar codes to identify product code and price. The bar codes are scanned with a light wand, which enters the price, product description and quantity directly onto the invoice. When ringing the sale, the clerk uses a magnetic strip-reader for the customer's credit card. This *4th Dimension* application is programmed to identify the type of credit card, then signal a modem to automatically dial the corresponding number for the credit authorization — which is transferred onto the transaction invoice. As the sale concludes, the store's inventory is adjusted, and *4th Dimension* prepares to re-order merchandise as required. All this from a single Macintosh SE on the front counter!

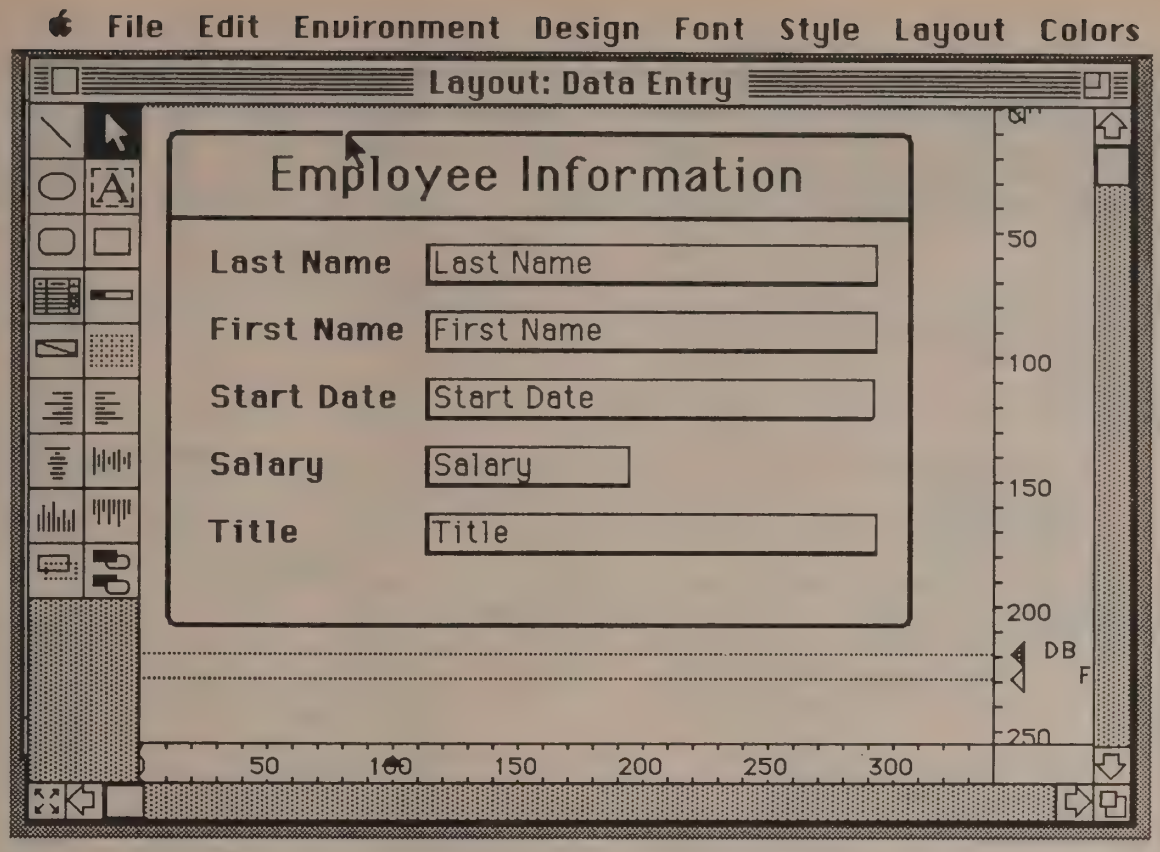
Into The 4th Dimension

For all its power and complexity, it's deceptively easy to set up a simple database with *4th Dimension.* The program operates on three different levels: the Design level, the User level, and the Custom level.

Databases are actually created at the Design level. Opening a blank (new) database file will bring you into the Design level, with the "Structure Editor" displayed on the screen. In the Structure Editor, the files within the relational database are defined, along with the attributes of the fields within the files.

4th Dimension was an immediate hit among Macintosh database programmers on its release last summer. And with good reason: the power and features resident in 4th Dimension border on the unbelievable.

To create a new file, simply pull down "New File" from the Structure menu. Double-click in the blank area below the file to create a new field. As each new field of a file is called, a dialog box asks for the attributes of that field. Each field can be defined as alpha, text, real, Integer, Long Integer, Date, Picture, or as a sub-file. Along with those attributes, the field can be assigned as "mandatory," "display only," "Can't modify," "Indexed," "Unique," or as a field to be selected from a list of "Standard Choices."



The Layout Editor is object-oriented, and contains simple drawing tools. Color is also supported for Layouts on the Macintosh II.

Once the Files and Fields are specified, creating Links between Files is a simple matter of "clicking" on a Field, and "dragging" into the desired Field of another File. 4th Dimension supports an unlimited number of Links between Files.

Next, the Layout Editor is called to create input and output Layouts for the data.

Eight standard layouts can be selected, or a custom layout can be created for the data fields. The window for the Layout Editor behaves like standard Macintosh "draw" programs, and can be used to define or modify the input/output for the data fields. Control buttons can also be created and defined, and used to access procedures from *4th Dimension.*

Finally, the Procedure Editor is called to write the procedures which manipulate the data. The Procedure Editor offers the option of creating procedures either as a flow-chart or a listing of commands. However, once a procedure has been created in one form, it can't be read or translated to the other. Since *4th Dimension*'s procedure language resembles Pascal, most programmers will probably opt for the listing format.

The window for the Procedure Editor is divided into four areas: an area for editing the Procedure, and three boxes for automating the programming process. To the left is a list of "keywords" for programming; to the center is a listing of all the fields for the file(s) which compose the database; to the right is a listing of "Routines" which can be called into the Procedure program. As the database grows in complexity, Procedures can be added to the Routines list, allowing Procedures to be called as subroutines for other Procedures.

The Procedure language is the key to *4th Dimension*'s power. Procedures can call different pull-down menus, as appropriate for the task at hand, and can "disable" (gray-out) various items on those menus. Likewise, the Procedures define the actions for control-buttons contained in the data Layouts. As each line of a Procedure is created, *4th Dimension* tests the syntax and alerts the user to incorrect statements. A de-bugger is also included: if a problem is encountered in running a procedure, the de-bugger will flag the line where the problem occurred.

The Procedure Editor offers the option of calling program routines from an external source. Subroutines compiled in Pascal or C can be called and executed, and will then return control to *4th Dimension.* This makes it possible to take advantage of programs more powerful (and faster) than *4th Dimension*'s internal language. However, the size of these external routines is limited to less than 32K.

For database applications where security is an issue, a Password Editor can control access to various parts of the program. The Password Editor can assign passwords for the Menu Editor, making various menu selections password-dependent. Passwords can also be assigned to input/output layouts, making it impossible to display data without the correct password. Since the password structure is hierarchical with up to 32,000 levels, it's possible to precisely define access to various areas of the database. The Password Editor also tracks the date and time each password was last used, and the total

This is not a product for the faint-of-heart, or for the casual user looking for a relational database. 4th Dimension is a programming language, written by a programmer, for programmers, and made to appeal to advanced programmers.

The Procedure Editor displays 4th Dimension's programming language, which resembles Pascal.

number of times each password has been used.

The User And Custom Levels

Once a database has been successfully created in the Design level, it can be run in either the "User" level, or the "Custom" level. The User level is a friendly environment, with pull-down menus for familiar database functions: search, sort, report, graph, chart, etc. For most database requirements, the built-in functions of the User level will suffice.

The Custom level is another story altogether. To make use of the custom pull-down menus of the Custom level, *everything* must be defined for the various menus. Though the tutorial manual supplied with *4th Dimension* jumps directly to the Custom level, Acius' tech-support recommends working in the User level — unless it's absolutely necessary to create a custom, stand-alone application.

Using 4th Dimension

First off, *4th Dimension* is a huge, powerful, and complex program. The documentation supplied is over 1,000 pages thick, spanning five separate bound volumes. The Tutorial alone is over 200 pages.

Though *4th Dimension* goes to great lengths to ease the creation of a database, it's important to remember that this is a *programming environment.* "Programming" is the key word: even with a simple database, programming Procedures must be created to describe what to do with the data.

To some extent, this process is automated. For example, when a link is established between files, the Procedure Editor will automatically create the programming lines describing the link. Working through the supplied Tutorial will give you an introduction to how the program operates, and will introduce you to some ways to set up a practical database.

But it's not enough. Once through the Tutorial, you're on your own. The Procedure Editor has been devised so that creating lines of instructions can be a simple "point-and-click" affair, scrolling between the lists of options in the three boxes. But the Procedure Editor can't tell you what to select, or when, or why, to select it. In reality, this feature offers little more than typing assistance. Due to the complexity of *4th Dimension,* there's no on-line "help" feature. And there couldn't be — any more than there could be a "help" feature for BASIC, Pascal, or Fortran.

After working with *4th Dimension* for over six months, I have to confess that Acius does offer excellent tech support. Though it's not always possible to reach someone on the first try, Acius tech personnel make a monumental effort to call the user on the same day of the inquiry.

A visit to Acius revealed a sophisticated system of tracking requests for tech support; who called, when, the nature of the question, how to reach the customer, and how to best send requested literature. Of course, this tracking system is maintained on a network of Macintosh computers, via their own *4th Dimension* application. (In fact, Acius will send a copy of this tracking system to any registered user, to take apart and examine the programming behind the system.) Also important is there's no time-limit on tech support: no dues, or special registration fees are required. Just pick up the phone and fire away. For members of CompuServe, the Acius tech-support staff logs-in several times every day to answer questions posted to their SIG (Acius' Special Interest Group).

Programmers comfortable with Pascal will feel right at home with *4th Dimension.* For the rest of us, creating even simple database structures will involve hours of hair-tearing aggravation. Working with this database is a commitment to learning a computer programming language unique to *4th Dimension.*

Speed, And Other Considerations

Effectively using *4th Dimension* requires a hard-disk drive (so what doesn't these days?). The program itself consumes a full 714K on disk. Add the System, Finder, and a reasonable data-file, and you're beyond what a twin-floppy Mac can comfortably handle.

As for the hard-drive, speed is of the essence. Running Apple's serial-port version of the HD-20, versus an external SCSI drive, bogged program execution noticeably. Trying to run *4th Dimension* from a floppy-disk would slow things to a crawl.

The Macintosh II is best suited for working with *4th Dimension.* Several Macintosh Plus and SE users have complained to Acius about the execution speed for various procedures. The official response? "Buy an accelerator board!" True to their word, all of the Macintosh SE stations at Acius' headquarters were equipped with the Radius Accelerator board.

On the subject of speed, any "comments" entered into the Procedure Editor take time to execute. The documentation provided for *4th Dimension* heartily recommends that the lines of instructions in Procedures be preceded by comments, describing what happens in the procedure instruction. For absolute speed, delete the comments from your procedure, and create a separate text file to keep track of your comments.

Also at the Procedure level, if you're creating an external procedure with parameters (loaded into memory), the limit is 10 parameters for the current release. The documentation lists that up to 99 parameters are available — a bug to be addressed in the next release.

Working in the multi-user mode, the AppleTalk network is depressingly slow for database work. Even on a Macintosh II, *4th Dimension* took time to recognize and update changes to the database. For serious multi-user applications, special EtherNet cards should be considered for each node of the system.

Also, for adding records in the multi-user mode, the Customizer (a separate program) must be used to tell *4th Dimension* how many records might be required. This will likely change (be fixed) in future releases of *4th Dimension.*

4th Dimension is offered in two versions: the complete program, and a special "Runtime" version. The Runtime program is used for executing Custom *4th Dimension* applications, and denies the user access to any of the program's User or Structure levels. The Runtime version is available in groups of four for $295 — about $75 per node. Acius has elected to offer Runtime rather than individual site licensing for this program, a wise move in that a programmer can offer a client the finished version of a Custom application, all legal and above-board, with only a $75 payment to Acius.

Acius also offers a "developer's package" for *4th Dimension,* at the rate of $695 per year. Included in this package is a 50% discount on all Acius software (soon to include a word-processor), a subscription to Acius Tech Notes, and special discount prices for attending Acius' Developers' Seminars and Training Sessions held throughout the country.

Last, but not least, is the buy-in price for acquiring a copy of *4th Dimension*: $695, making it one of the most expensive pieces of software available for the Macintosh. Considering the time required to create a database with this product, that price should be considered a down-payment. For a simple database, figure a couple of days to a week of dedicated work with the program. For more complex applications, database work that can *really* take advantage of *4th Dimension*'s power, the sky's the limit. This is *not* a product for the faint-of-heart, or for the casual user looking for a relational database. *4th Dimension* is a programming language, written by a programmer, for programmers, and made to appeal to advanced programmers.

A reasonable analogy is offered by automobiles: you don't go to "driver education" at Indianapolis. If you need the speed and power, sure: that's the place to do your business. But getting there is an evolutionary process: a commitment to "learning to drive." If you pull *4th Dimension* from the shelf as your first venture into a relational database, be prepared to strap on your helmet to bump shoulders with Mario Andretti.

(For further information, contact Acius, 20300 Stevens Creek Blvd., Ste. 495, Dept MT, Cupertino, CA 95014. 408/252-4444.) □

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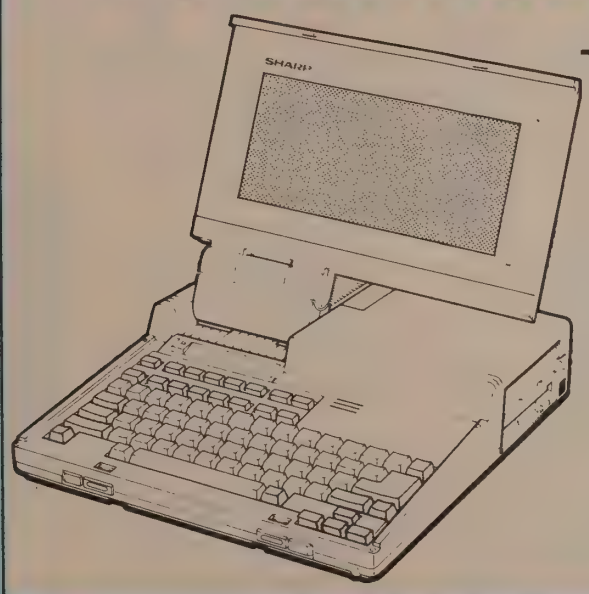

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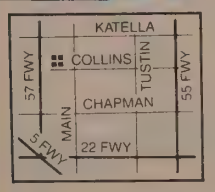

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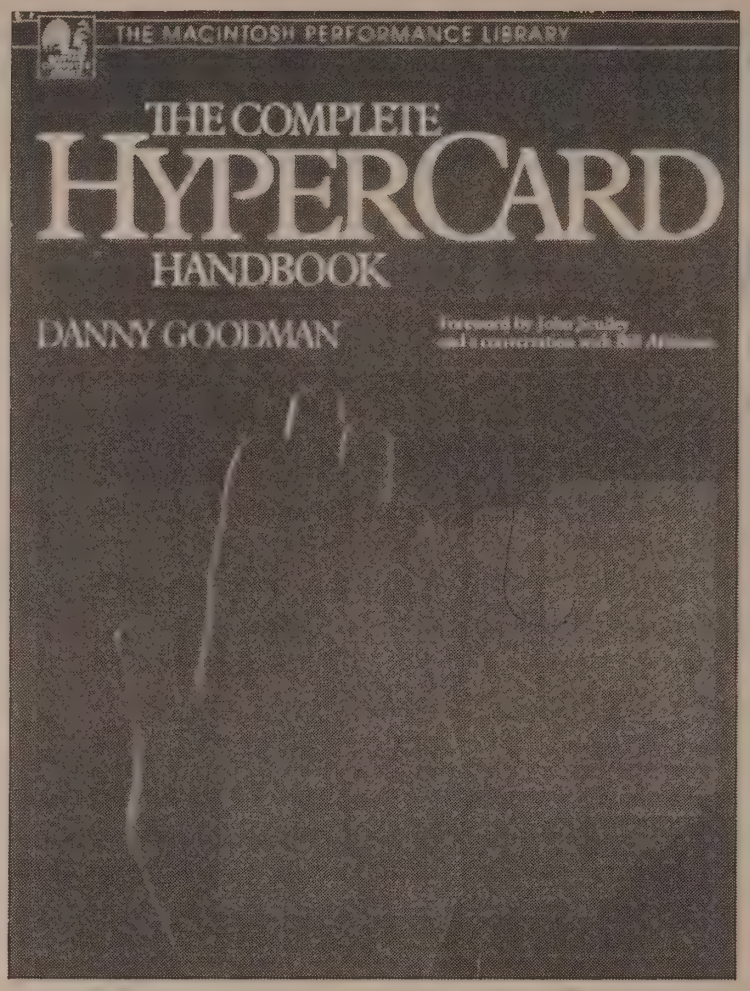
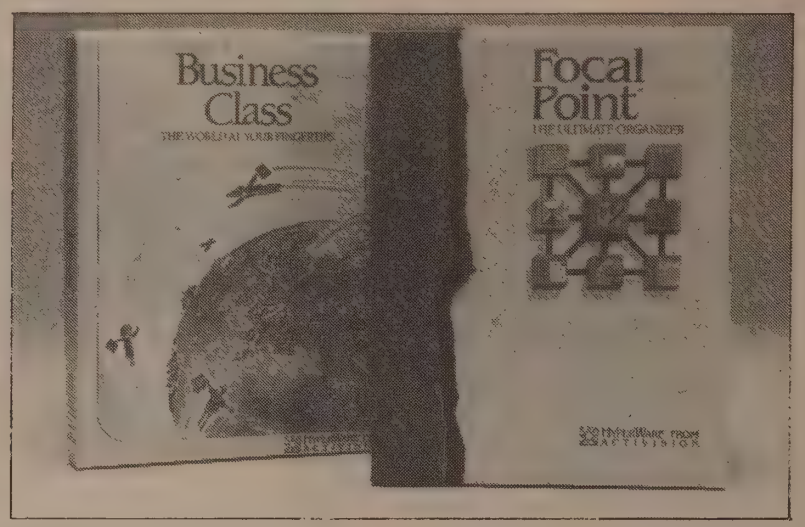


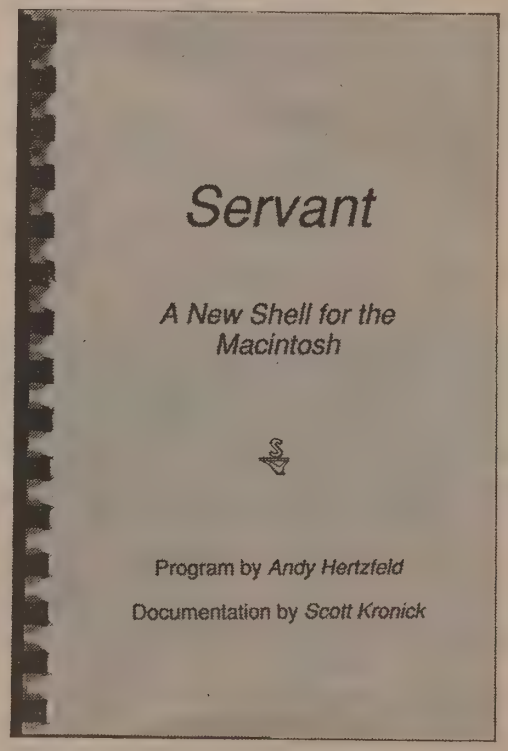
Danny Goodman's Guide To HyperCard

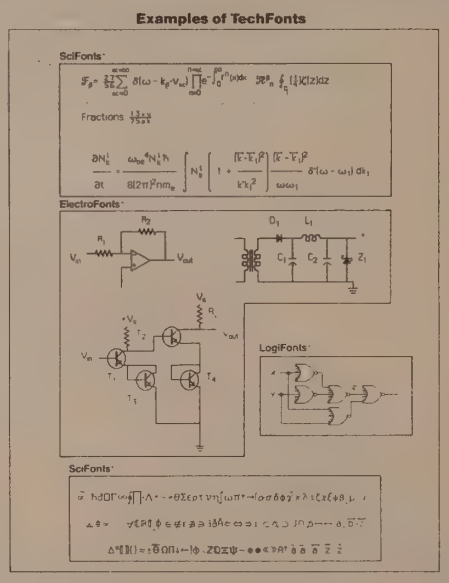
The Complete HyperCard Handbook written by Danny Goodman and published by Bantam Computer Books is a thorough guide and tutor to *HyperCard*. Danny Goodman provides the unique perspective of having seen *HyperCard* take shape in its secretive year and a half of development. The first half of the book tells of shortcuts and undocumented features of *HyperCard*. The second half delves into *HyperCard*'s comprehensive programming level and the HyperTalk scripting language. The book will tell you, among many other things, how to create *HyperCard* stacks, backgrounds, cards, fields, and buttons. *The Complete HyperCard Handbook* contains over 600 pages of information. ($29.95).



Documentaion For Servant From Scott Kronick

Servant is a shell for the Macintosh that replaces the Finder. *Servant* is available free on many BBSs and from user groups. Scott Kronick has published a book on how to use *Servant* called *Servant, A New Shell For The Macintosh*. The book shows the user how to use the new desktop, how to add special touches to the desktop, how to use the desktop and multiple applications at the same time, and how to explore and manipulate the resources of applications and system files. It also contains a list of *Servant* features indexed both graphically and by topic. ($10.00) Servant Documentation, 1442A Walnut Street, Suite 278, Berkeley, CA 94709.





Three Technical Fonts For The Macintosh

SciFonts, LogiFonts and *ElectroFonts* from Paragon Concepts are three bit- mapped fonts that can be used by any program that allows a choice of fonts. They are designed to be printed with ImageWriter and LaserWriter printers. *SciFonts* is for scientific and math applications. *Logifonts* consists of a logic circuit font. *ElectroFonts* is a package that contains both *SciFonts* and *LogiFonts* as well as electric fonts with standard analog circuit symbols such as transistors, op-amps, switches, etc. *SciFonts* ($50), *LogiFonts* ($40) and *ElectroFonts* ($99) are available from Paragon Concepts, 4954 Sun Valley Rd., Del Mar, CA 92014. (619) 481-1477.

Two HyperCard Applications From Activision

Focal Point and *Business Class* are two *HyperCard* applications written by Danny Goodman and published by Activision under its HyperWare line. *Focal Point* ($89.99) is designed to help the user manage personal business information, time, projects, clients, vendors, expenses and deadlines. Users can arrange the *Focal Point* stacks to suit their personal needs. It is especially designed to keep track of information that is easily forgotten. It is also designed to minimize time spent in redundant tasks by making it possible to never have to type the same information twice. *Business Class* ($49.99) is for the world traveler who needs to have access to such information as who to call in Austria for a cab and what the exchange rate is in Turkey. This exhaustive stack covers such topics as passport information, customs, mail costs, hotel accommodations and what kind of plug you need for your electric hair dryer. Activision, 2350 Bayshore Parkway, Mountain View, CA 94043. (415) 960-0410.

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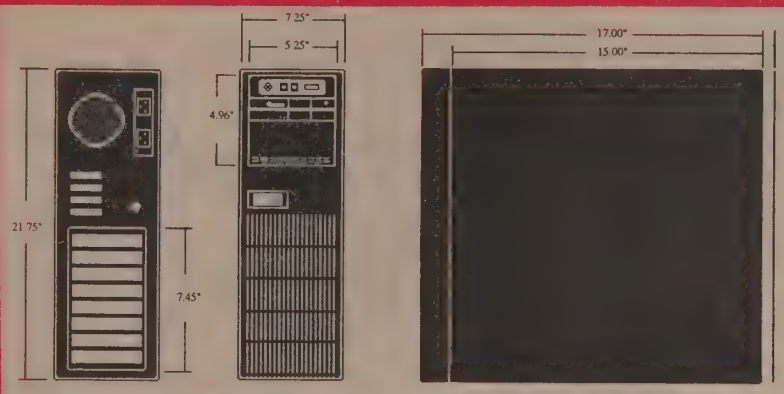

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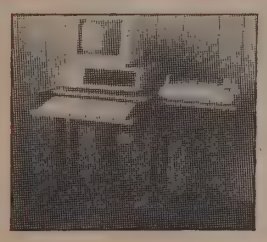

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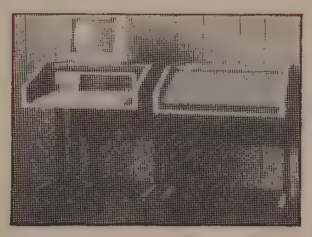

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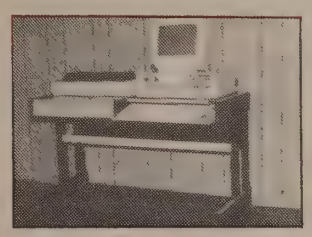

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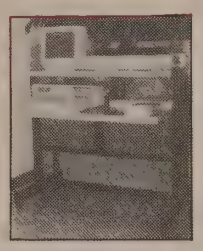

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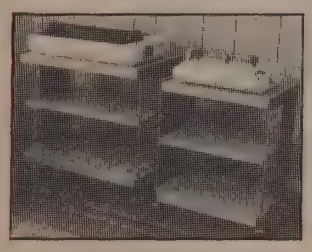

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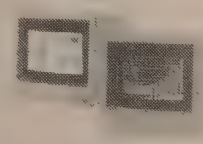

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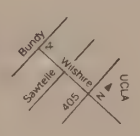

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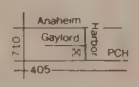

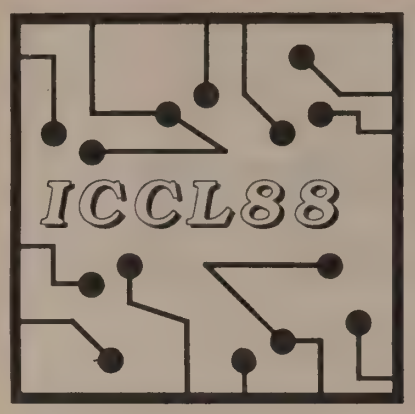

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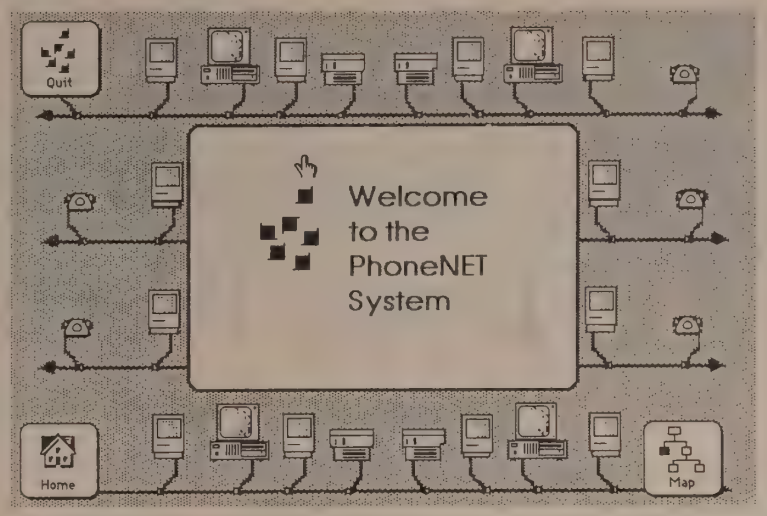
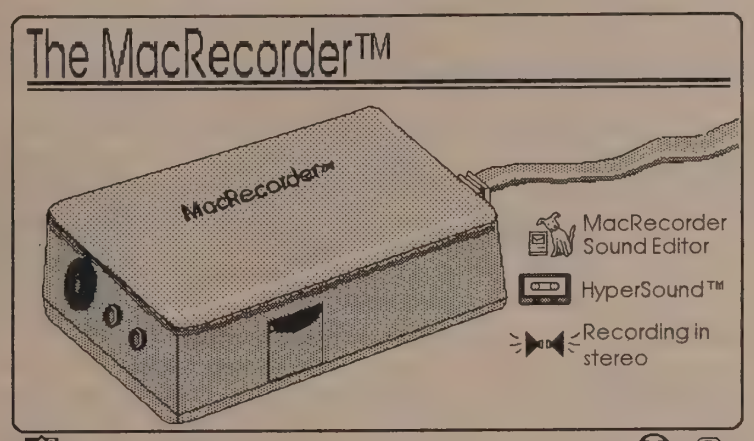
The PhoneNET Plus system from Farallon Computing is an integrated cabling scheme and network management system for Apple Talk. PhoneNET makes it possible to run AppleTalk over inexpensive telephone wire to create a low cost LAN. While using standard RJ11 phone wire connectors it also provides special circuits that make it compatible with Apple connectors. With PhoneNET the user can create daisy chain, backbone or passive star networks. PhoneNET provides network manager tools that troubleshoot, manage traffic and control a network. Also available is the PhoneNET Star Controller, a 12 port packet repeater that can suppport as much as 3,000 feet of cable off of each port for a total network length of 36,000 feet. Farallon Computing, 2150 Kittredge Street, Berkeley, CA 94704. (415) 849-2331.





MacRecorder Lets You Record Real Sound Into The Mac

The MacRecorder from Farallon Computing allows the user to record real sound into the Macintosh and then edit and mix it creating tracks. The user speaks into the MacRecorder's built in microphone creating sounds for such programs as *HyperCard, VideoWorks, Jam Session* and *Studio Session*. By using two MacRecorders users can record in stereo. An added feature, *HyperSound,* let's the user record and edit sound within *HyperCard*. ($199.) Farallon Computing, 2150 Kittredge Street, Berkeley, CA 94704. (415) 849-2331.

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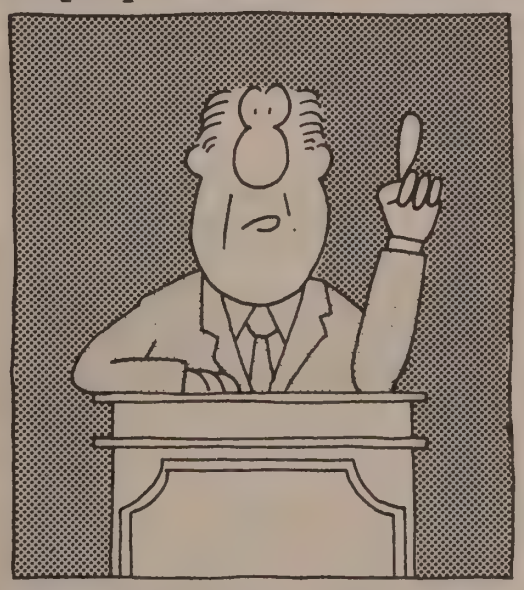

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Faster Access For Floppy-Based Systems

By Matthew Leeds

Working with an Amiga is not always easy. I've gotten a little spoiled, since the system I currently use has over three megabytes of RAM and a 20MB hard disk; most Amiga users are working with two-drive systems with no expansion RAM. That is changing; I'm seeing more people with extra RAM added to their systems. The additional memory comes in handy when multi-tasking, but does little to speed up disk access from the floppies.

If you've added RAM to your system, or even if you haven't, you should know about *FACC* from ASDG. *FACC* (Floppy Accelerator) is an intelligent floppy disk cache program. It keeps the files most recently accessed from your disk drives stored in memory, combining the best aspects of a RAM disk, the Add Buffers command, and an excellent user interface.

What this all means is that if you have extra memory you can use it as an intelligent RAM disk. *FACC* keeps track of what files you have recently accessed, and which you are using most often, and keeps them in a dynamically allocated RAM cache.

An example may help explain. When you use the CLI to call a directory of a disk, you use the command DIR DFX:, where X is the number of the drive you want a directory from. AmigaDOS gets the DIR command from the subdirectory of your system disk (usually the WorkBench you booted with), then reads the directory and displays it on-screen. If you decide you want to see the directory again, the whole process has to occur again, with all the delays you would expect as the C subdirectory is located, the DIR command is read, and the directory is read, sorted, and displayed.

If you were using *FACC*, the DIR command and the directory would have been stored in RAM buffers; and the second time you read the directory it would have appeared moments after you completed typing the command.

This is just a trivial example of how *FACC* can benefit you, but there's more. So far it just sounds like the Add Buffers command. It isn't. *FACC* allocates RAM from fast RAM if you have it, not chip RAM. You can change the size of the buffer at any time, or eliminate it entirely. *FACC* will keep a history of how often it assists you, and how much memory it is using.

The latest version, *FACC II*, has additional features. It will discriminate between data and directory information and give preference to directory information. This means that files will be found more quickly using *FACC II*. The new version also has a special low memory handling capacity; if you are using *FACC II* with a current buffer size of 128K, and you attempt to run an application that needs 100K of memory, but there are only 50K of memory free in your system, *FACC II* will release the required memory from its buffer so that the new application can run. All this happens without user intervention.

FACC II has other remarkable capabilities, too numerous to mention. ASDG has released *FACC II* without copy protection, and has a very generous upgrade policy: they upgraded everyone who bought the original version of *FACC* free of charge. If you don't have a hard disk for your Amiga you need *FACC*. The difference is astounding.

Matthew Leeds has been involved in the high tech field since he blew up his bedroom playing with a children's chemistry kit. He has been using Commodore computers since 1982 and has a strong interest in photography, video, graphics and related fields. He currently works for Infinity Software

Video Enhancements

I want to make quick mention of two new products for the A2000. The first is FlickerFixer from MicroWay, a board that acts as a video buffer. It stores each field of video as it is created by the Amiga, combining two fields and sending them as a single non-interlaced display. A multi-sync monitor is required, as the horizontal scan rate of the resulting signal is double the standard rate of 15.75KHz. The new display is remarkable. Hires 640 x 300 screens without flicker or jitter, perfect for word processing, CAD, or desktop publishing. FlickerFixer will be available around the first of the year.

The other product is currently just a prototype. NewTek, the company that produces the DigiView video digitizer and *DigiPaint*, the HAM paint program, recently announced the Video Toaster, a board based video product. The Video Toaster is a video special effects system that combines ADO-like effects with frame capture, frame buffer, genlock, and NTSC encoding capability. Planned additions will include programmable switcher capacity, chroma-keying, an NTSC paint program, and support for a TMS 34010 video co-processor. The Video Toaster is the start of a complete video effects and editing system, based on the A2000. NewTek expects is will become available sometime in the first quarter of 1988.

Vizawrite For The Amiga

I also just received a copy of *Vizawrite Desktop* from Progressive Peripherals & Software. This is an Amiga version of their very popular word processing program for the Commodore 64 & 128. I had heard rumors about bugs in early release versions of *Vizawrite*, but the version I received (V1.2) seemed to work just fine.

Vizawrite is a WYSIWYG word processor that gives you full access to the Amiga system fonts. It lets you edit multiple documents, include black-and-white graphics in your document, and fully supports multi-tasking. It has all of the expected standard word processing functions and it took me only minutes to learn the basics of formatting, editing, and printing. The user interface is generally well thought out, with only a few poorly designed areas.

Vizawrite is the only Amiga word processor I've seen that supports both fonts and mail merge. There are some excellent bells and whistles as well. The History function keeps track of how many revisions have been made to a document, and also lets you password protect a document. Graphics can be resized on-screen, although text can't be wrapped around graphics. There is also an excellent boilerplate function that lets you store frequently used phrases, paragraphs, or even graphics, and easily place them in your document.

Vizawrite falls short in only a few areas. Since it does not make use of the standard Amiga preferences printer controls for the best (quality output of fonts) printer output, you are limited to the list of supported printers supplied by PP&S. You can use standard Amiga printers, but the results are just not as good. Check on the current list of supported printers before you purchase.

I'd also like to see the file requester fixed. Not that it's broken exactly, just slightly brain damaged. Two examples should suffice. As you would expect, double clicking on a file name in the file requester loads that file. However, double clicking on a subdirectory just places the name of that subdirectory in the drawer window twice, requiring you to delete the second occurrence. Also, the programmer has hard coded the available devices into the file requester and has only listed DF0, DF1, DF2, and DH0. You can change the assignment of the DF2 gadget through a config file, but the program should be smart enough to just check the system resources and display the appropriate gadgets for the available devices.

These, though, are minor quibbles that should not mar an otherwise well implemented program. If you are looking for a word processor that can handle fonts and B&W graphics, *Vizawrite* is more than capable. □

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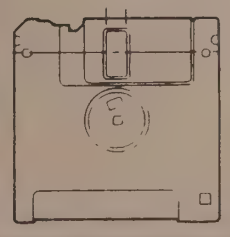

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COMDEX Report:
Software Trends For '88

By Ken Milburn

Las Vegas is the land of perennial sunshine and neon. It is also the annual scene of the world's largest and most important microcomputer show, COMDEX. Outside, the sun was ducking in and out of clouds that shed buckets of rain, turning the streets into un-navigable rivers. Inside COMDEX, the sun was shining everywhere. It was the biggest ever — 105,000 attendees, by the most optimistic estimates. All those bodies made it tough to get from one of the 1,700 exhibits to another. And even tougher to see anything when you got there.

This column is one reporter's take on which newly-announced PC applications are most likely to set the direction of new software developments for the next 12 months. Keep in mind that none of the products in this report have been tested. Products are reported on here for their promise, not their performance — what they may mean to you and your plans for enhancing the automation of your office in the future.

A little background discussion of significant recent hardware and operating system developments, before telling you about the new software, will help put things in perspective. These will be the platforms for even more sophisticated applications than those profiled below. Remember that developments in one category propel further development in another.

Processor Evolution

The 1986 Winter COMDEX marked the year of the 386, a chip that promised a revolution. The 1987 show was one of evolution, although this was rumored to be the year the IBM PS/2 Micro Channel began to appear in non-IBM machines. MCA (Micro Channel Architecture) promises a revolution by (among other things) making it possible to support more than one main processor at a time on the same computer. Alas, not a single MCA motherboard or computer or chipset was officially announced at the show. For months, we had been reading and hearing that the major R&D companies like Chips & Technologies and Phoenix Technologies would offer chip sets for Micro Channel clones. At the show, those companies were admitting that copying the MCA is more problematical than they'd at first thought. They are unanimous in saying that it will be at least 12 to 18 months before any product based on such a chipset becomes practical.

Meanwhile, back at the Houston ranch, Compaq has been saying that the Micro Channel was unlikely to become an accepted standard. Now Compaq's president is admitting that they are working on producing an MCA clone "for insurance." Concurrently, IBM says they expect the MCA to be copied — but not with any help from them.

It turns out that Micro Channel Architecture may be more important than some of us at first thought. Why? Because when the OS/2 Extended Edition and multiple-processor add-in boards for the PS/2 series hit the market, the AT bus hits the wall — neither of these significant products will work with it. Microsoft and 3Com (the big networking company) are working on their own version of an Extended Edition that will run on generic AT and 386 clones. So the functionality of OS/2 EE's networking talents may become available on non-MCA machines. Furthermore, Compaq and AST's extensions to the standard AT bus are capable of supporting their own multiple-processor boards. Compaq plans to keep its system proprietary. AST has offered a set of blueprints to any other manufacturer who cares to use them — an obvious attempt to set a second standard that maintains compatibility with present peripherals for the PC.

Beating The 640K Limitation

If you've ever tried to load *Windows*, *SideKick* and a RAM-hungry application like *Paradox*, you've previewed the RAM-cram frustrations that are in store for all of us until the new operating systems (and applications written for them) are available. Furthermore, neither OS/2 nor any of the advances mentioned above will ever be available to the owners of 8088/8086-based PC-compatibles.

The best interim cure for sixfortykayitis is a combination of a multi-tasking, windowing operating system shell (*Windows 2*, *Windows 386* or *DESQview*) and an extended memory scheme capable of loading program code above 640K. A couple of months ago, a new version of the Lotus/Intel/Microsoft Expanded Memory System (LIM EMS) was announced. The new version, 4.0, can load programs above 640K, recognizes 32MB of expanded memory (compared to the older version's 8MB limit), and (in conjunction with *Windows* or *DESQview*) makes it possible to bounce between active 640K work spaces.

Once the publishers of memory-resident programs revise them to take advantage of that capability, you should be able to load as many of them as you like without running out of room for your underlying applications. That is, provided you're willing to install a few more megabytes' worth of RAM chips.

LIM EMS 4.0 requires special hardware to handle all this, so it won't work on most existing EMS boards. It will work on older boards that support the AST/Quadram EEMS scheme or on extended memory running on a 386 processor. The 386 chip contains all the necessary circuitry for EMS 4.0's memory management and multi-tasking chores. Both Microsoft's *Windows 386* and Quarterdeck's *DESQview 386* were demonstrated with their EMS 4.0 drivers at COMDEX. And unlike most products previewed at this show, both are available to the public now.

Firms at COMDEX who announced LIM 4.0 cards (or drivers for their existing cards) for the PC were Quadram, AST, Intel, Tecmar and Profit Systems. PS/2 EMS 4.0 cards were announced by Quadram, Tecmar, AST, Everex, Orchid Technologies and IDEAssociates. Soon (by midsummer) every expanded memory board maker will have to go along by offering their boards with the necessary hardware and drivers to fully support EMS 4.0, but you can expect that to push prices up a bit in the process.

OS/2 Spurs Migration

The public's migration to IBM's new microcomputer architecture may be speeded by two other COMDEX events: IBM announced the sale of its one-millionth PS/2 system, and Microsoft and IBM have both announced dates for the shipment of the first version of OS/2.

OS/2 is the new operating system for 286/386-based PCs jointly developed by IBM and Microsoft. It doesn't run on earlier generations of the Intel microprocessors, such as the 8088s, 8086s and NEC V20s that power the PC, XT and Compaq DeskPro. Since IBM and Microsoft have jointly set the majority of existing microcomputer standards, there is every reason to expect that OS/2 will become the new standard Operating System (OS) for 80x86 microcomputers. OS/2's significant contributions are the ability to run multiple programs simultaneously (multi-tasking) and the ability to recognize up to 16 million bytes of contiguous memory, vs. PC-DOS's limit of 640K.

The initial version of OS/2, 1.0, officially ships from IBM on December 4, 1987. This is the version without the Macintosh-like windowing environment already available in *Windows 386* and *Windows 2*. IBM and MS say that version 1.1 (also known as the Presentation Manager version) won't be ready until the summer of '88. A third version of OS/2, which runs only on IBM's PS/2 models with Micro Channel Architecture, is called the Extended Edition. It adds multi-user and networking capability and an interface to IBM's larger systems. EE also incorporates a fully relational, mainframe-like database management program.

OS/2 will not be available on retail shelves in a "generic" Microsoft version for compatibles. Owners of 286/386-based PC/AT clones will have to buy it from their machine's manufacturer. Microsoft is already shipping OS/2 to clients who make compatibles. Those companies will still have to write their own device drivers and prepare documentation before they can start shipping OS/2 with their machines.

Copyright ©1987 by Ken Milburn. All rights reserved. *Ken Milburn is a freelance writer on Microcomputers. His articles have appeared in numerous computer publications, including* PCWorld, InfoWorld, Computer Graphics World *and* MicroTimes. *He also does system configuration for small businesses. He can be reached at (415) 331-6926 or by sending E-mail to (ken) on the WELL, (415) 332-6106.*

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DESQview lets your programs work together in a familiar way, giving you many of the capabilities and features only promised by other systems. In fact, the editors of *PC Magazine* recently named it "Best Alternative to OS/2," and *InfoWorld* gave it a report card rating of 9.1.

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- Automatically detects the speed of the memory in your PC and uses fast memory whenever possible.
- Increases system performance by remapping slow ROM into the 386's fast RAM memory.
- Frees up DOS conventional memory by loading memory-resident programs above video buffers.
- Supports 386 protected-mode programs, such as Ansa's Paradox 386, that use Phar Lap Software's 386 DOS Extender.
- Turns DESQview into a 80386 control program, using the 80386's 8086 machine architecture to run multiple large programs concurrently.
- Takes approximately 1.5K of overhead from the PC's conventional memory used to run DOS programs.

System Requirements: 80386 PC, IBM PS/2 Model 80, or standard 8088, 8086, 80286 with 80386 add-in board.

For IBM PS/2 model 50 and 60 users, QEMM-50/60:

- Fully supports the Lotus-Intel-Microsoft Expanded Memory Specification (EMS) version 4.0.
- Takes advantage of the hardware capabilities of the IBM PS/2 80286 Memory Expansion Option to transform its "extended" memory into "expanded" memory.
- On PS/2 Model 50 and 60's with 1.5 MB or more of the IBM Memory Expansion Option memory, enables DESQview to run multiple large programs concurrently.

System Requirements: IBM PS/2 model 50 or 60 with IBM PS/2 80286 Memory Expansion Option board or compatible. Note: IBM PS/2 architecture requires disabling motherboard memory and 'backfilling' conventional memory to 1 MB in order for any multitasking environment to work, including Microsoft Windows 2.0, IBM's 3270 workstation program, or DESQview. QEMM will not run on 80286 computers with extended memory.

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New Windows And DESQview

As mentioned earlier in this report, *Windows* and *DESQview* have been offering a degree of relief from the limitations of PC/MS-DOS for some time. More advanced versions of both products, designed specifically for 386 machines, were shown at COMDEX. In fact, you saw one, the other or both running in nearly every booth.

Quarterdeck introduced *DESQview 386* to support the running of 32-bit protected mode software on 386 computers and add-in cards. Applications that do this aren't re-written for OS/2, but look like ordinary DOS applications and will run concurrently with them under *DV386*. The secret is DOS-extender, a programming routine that lets ordinary DOS code run in up to 32MB of continuously addressable RAM. The first application to use it will be the *Paradox* database from Borland's Ansa Division. Both *DV386* and *Paradox 386* will be available in January.

Windows 386 was actually shipping before COMDEX. It does true multi-tasking, has overlapping windows (rather than the side-by-side variety found in older versions) and a much "cleaner" overall design. *Windows 386*'s user interface is identical to the forthcoming *Windows 2* and Presentation Manager interfaces, so it will eventually contribute to providing us with a uniform, totally graphical user environment across 286, 386 and OS/2 systems.

The Windows Wars will eventually be won by *Windows*, and not only because IBM and Microsoft's joint clout is overpowering. The new versions of *Windows* (2 and 386) have the identical screen appearance and command structure as OS/2's Presentation Manager and IBM's new standard environment for its larger systems. My theory is further supported by the fact that there were more new applications written directly to the Windows interface introduced at COMDEX than one had the time to examine. All the leading applications publishers (including Lotus, Ashton-Tate and WordPerfect) have said they'd make "significant" announcements "in the near future." Translate that to mean that we can look for the first industrial-strength Windows database manager and word processor in time for Spring COMDEX.

Microsoft introduced the most significant new *Windows* product, *Excel*, a spreadsheet program that knocks the socks off *Lotus 1-2-3*. You can "desktop publish" your spreadsheets into invoice forms and reports; you can link as many individual spreadsheets (of up to four million cells) as you like; automatic auditing is built-in. You can record macros on the fly or use the macro commands and 355 functions as a spreadsheet programming language.

If all this makes you want to dump your old spreadsheet, have no fear for all the work you've put into it. *Excel* reads both macros and data from *Lotus*. It also reads data from *Symphony*, *Framework*, *dBASE* and *Multiplan*.

Now for the discouraging news: *Excel* won't run on any but 286- or 386-based micros. Borland's *Quattro*, discussed in more detail below, runs a close second and works just fine on an ordinary PC.

I mentioned that pro-level word-processing still isn't available to *Windows*. Microsoft says that its eventual product for the environment won't be called *Word*, but will be an entirely new package. Meantime, they've introduced a really clever $50 utility for *Windows* that gives you an on-screen preview of hard-copy page make-up and lets you incorporate any *Windows*-compatible graphics into text. It doesn't incorporate many of the more refined page-makeup talents of *PageMaker* or *Ventura*, but, for lots of

As businesses find themselves needing to create more and more technical illustrations for insertion in their desktop-published manuals, reports and training materials, they will find themselves using more 3-D drafting software.

businesses, the $50 MS is asking for PageView may be all they ever need to spend on publishing software.

The most interesting non-Microsoft business program for *Windows* is one that may save you from the ire of the IRS. Called *TaxView*, the program at first seems to be nothing more than perfect reproductions of all the IRS's forms on your EGA screen. Surprise! Its 40 forms are all linked together. Computations occur automatically in the background, as soon as you enter anything into one of the blanks. The results are reflected wherever applicable on any of the forms. Even if all you have is a dot-matrix printer, *TaxView* will print out legal copies of all the completed forms for you. You don't even have to go to the Post Office. There's lots more to this incredibly sophisticated $115 program, but the bottom line is that this program makes it easy and efficient for even a dummy like me to fill in the new "easy" IRS forms.

Desktop Publishing, Graphics

Since *PageMaker* has given more people reason to install *Windows* than any other product, it's no wonder that the bulk of new *Windows* apps are aimed at the desktop publishing and closely related graphics markets. *PageMaker* itself attempts to overcome *Ventura Publisher*'s significant lead in PC publishing with the release of version 3.0.

The new version reads and writes directly to word processor files, automatically flows text through long documents, and uses style sheets. Judging from the demos, the interface is still familiar and the program hasn't lost the intuitive "feel" that so endears it to graphic designers and novice users. Aldus will simultaneously release version 3.0 for both the PC and the Mac. Meantime, pricing is getting closer to *Ventura*'s, too. The Mac version will sell for $595 and the PC version for $795.

COMDEX gave birth to several applications aimed at overcoming the average business person's aversion to "artistic" endeavors like painting and drawing. Several scanner manufacturers are pushing "grey scaling" software that lets a scanner "see" a photograph as up to 64 shades of grey instead of producing the usual high-contrast black or white image. Yet another group of programs, like *Adobe Illustrator* on the Macintosh, let you trace a line-drawing over a scanned image. You can then enlarge, reduce, rotate and otherwise edit the resulting drawing with no loss of resolution or accuracy. That means that the same drawing can be used over and over again in a variety of publications.

Micrografx, the people who put the first drawing program on the PC, and who developed *Windows Draw* and *In*A*Vision*, showed the first *Illustrator*-type program for the PC. Also a *Windows* application, it is called *Designer*. The program looks to be more powerful than *Illustrator* and much easier for novices to understand. Furthermore, it runs in color (EGA or VGA) and lets you use fill patterns other than grey scales. You can bring in a bit-mapped image from a paint program, clip-art library or scanner. Then bitmap images can be scaled, stretched, colored or cropped before being used as templates for tracing. In tracing over the bit mapped template, you compose an object-oriented lined drawing that can then be manipulated and edited without paying any penalty in hard-copy resolution — regardless of the final size.

Designer lets you create up to 3.2 million different custom colors. Drawings can be on multiple layers, making it easy to put different colors on different layers for automatic color separations. A single drawing can be as big as 14 by 14 feet. You get all this for about the same price at *Illustrator*, and it will be available in time for stocking stuffing — maybe. If the price seems a little high, consider that *Designer* comes with a big clip art library and a fantastic utility that will convert any object-oriented line drawing *Windows* file to AutoCAD and vice-versa.

Aldus (*PageMaker*) has a similar program for the Macintosh, called *Freehand*. I spoke to the Aldus folks, who said that they expect to have a PC version before midyear next. Meantime, they're being democratic by offering yet another way for non-artists to create illustrations. This one's a *Windows* application and isn't (yet) ready for the Mac. It's called *Snapshot*.

Snapshot lets you capture a TV image (from set, camera or tape) in either color or B&W, then "paint" it with tools powerful enough to turn a picture of your Granny into Christie Brinkley. The resulting image's resolution can then be enhanced to a publication-quality halftone (up to 256 levels of grey) for reproduction by a PostScript laser printer or typesetting machine. *Snapshot* runs on the PC, and its files can be read directly by *PageMaker* for the PC or transferred to any *Windows*-specific application.

3D Drafting Tools

As businesses find themselves needing to create more and more technical illustrations for insertion in their desktop-published manuals, reports and training materials, they will find themselves using more 3-D drafting software. The extra time and training it takes to create a drawing using these complex programs will be worth it because, once drawn, the same object can be accurately re-positioned and combined with other objects to form new drawings. There are even techniques for translating such drawings for further enhancement by programs such as *Publisher's Paintbrush* and *Micrografx Designer*.

Three-dimensional drafting, modeling and illustrating programs were shown by a number of established publishers: Autodesk, VersaCAD, Drafix and Generic CADD. Each takes a different approach: Autodesk's *AutoShade* is an add-on utility for *AutoCAD 9* that takes a two-dimensional plan and extrudes it into 3-D wireframes. No means is provided for creating the objects in 3-D and then moving them into 2-D, but you get an easily understood "point and click" user interface, unlimited light sources and up to 256 colors (in VGA or PGC).

VersaCAD's 3-D module comes pre-packaged with 2-D drafting and bill of materials. Either of the above packages is best suited to professional draftsmen in the architectural or engineering fields.

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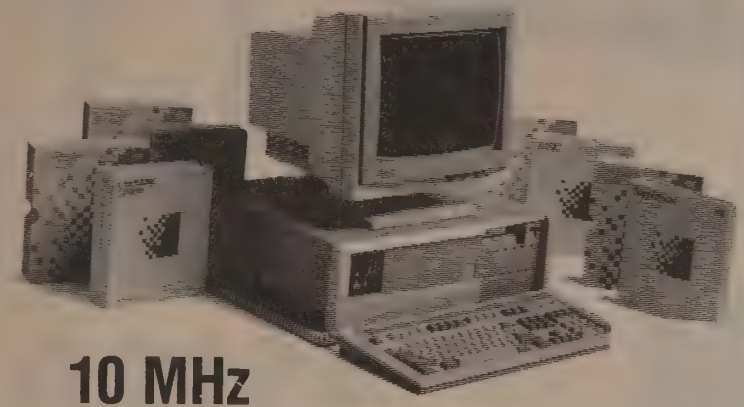

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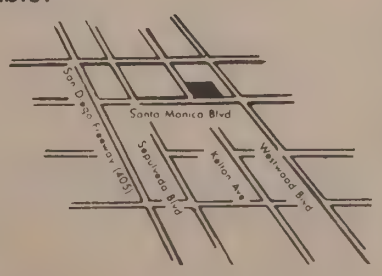

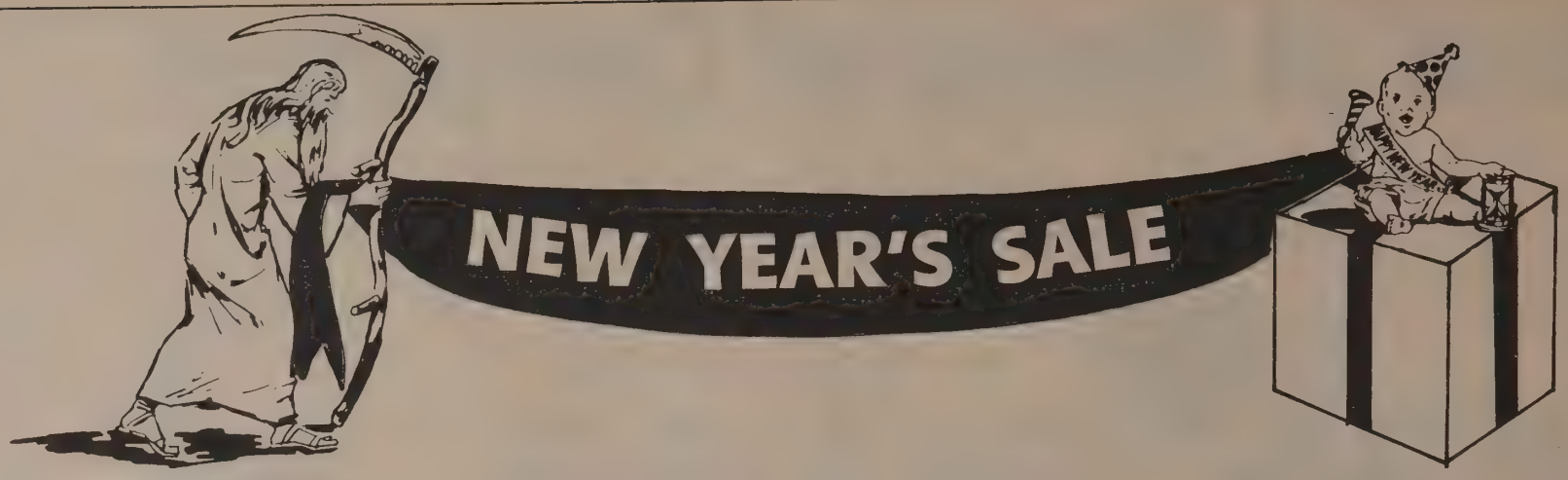

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product for the PC. Drafix has perhaps the best user interface for the novice draftsman that's available today, and their moderately-priced ($395) 2D product has been well received. If you want 3D, you have to buy both packages together, but the price is well under $1,000. That's a heck of a bargain when you discover that *MegaCADD* used to sell for $2,200 by itself — and that both *AutoCAD* and *VersaCAD* are in the three grand range.

Generic CADD, the all-time drafting software bargain at $99, has introduced a $200 3D package (available around the first of '88) that may be the most flexible true 3D drafting package of those mentioned here, in that it's the only one that lets you subtract one shape from another. That's an extremely useful capability, since nearly every object that surrounds us has some odd-shaped indentations in its surface.

Agenda, Quattro, And Other Delights

Graphics applications may have been the most revolutionary software introduced at COMDEX. That fact notwithstanding, the one program that got more attention than any other was a text-oriented business tool. Lotus' *Agenda* is the precursor to what may become a whole new category of software called Personal Data Management.

Agenda is so amazingly flexible that its real uses and purposes are impossible to describe (at least in less than several thousand words). Most of us who saw the demos were reminded most of *HyperCard*, but without the graphics and with a Lotus user interface. Basically, you can enter any amount of information, any way you want — then define what you want to retrieve and how you want it presented "on-the-fly."

Quattro does nearly everything Excel does, does it faster and doesn't require Windows or any of the souped-up hardware that is needed to make Windows practical. This jewel isn't copy-protected, costs half as much as 1-2-3, and runs twice as fast.

The award for "hot rod" spreadsheet of the year goes to Borland's *Quattro*. It does nearly everything *Excel* does, does it faster and doesn't require *Windows* or any of the souped-up hardware that is needed to make *Windows* practical. In fact, when it comes to menus you have your choice of a familiar *1-2-3* lookalike or a *SideKick*-like pull-down, point and click arrangement. This jewel isn't copy-protected, costs half as much as *1-2-3*, and runs twice as fast. Macros don't appear to be as powerful as in *Excel*, but they certainly match Lotus' and can be recorded while you use the program. There's also a built-in macro debugger. Like *Excel*, *Quattro* supports PostScript and H-P laser printers, so you can "publish" your financial reports and projections.

The booth that consistently attracted the biggest crowds was WordPerfect's. Their song and dance show, performed by company employees, was silly and amateurish, but the public still hung in the aisles to hear all the news. Versions of *WordPerfect* were demonstrated for the Macintosh, Atari ST, Apple II and Commodore Amiga. So was the upcoming 5.0 version of PC *WP*, which comes pretty close to being a What You See is What You Get desktop publishing program. You can incorporate graphics, use absolute measurements for page layout, and extend parallel columns past a page break. Typesetting commands are much more flexible, matching or surpassing those in MS *Word*. The program is even smart enough to translate formatting commands for one type of printer to those for another type of printer. So if you want to lay out a page for a LaserWriter, you can get a hard-copy proof from your dot-matrix printer without first having to re-format the document. Exciting as all this may sound, don't expect to see 5.0 on dealer's shelves until March.

WordPerfect also announced improved revisions of their spreadsheet and of the *WordPerfect Library* (to be called the *WordPerfect Office*), and previewed a fully-relational database management package.

Whew! Those are just the *highlights* of the applications software announcements that impressed me most at COMDEX. I couldn't cover the physical territory to see everything at the show, but have reported on the major players who are most likely to set the trends for the coming year. Real Soon Now, I'll cover some of the more exciting in PC and PS/2 hardware. □

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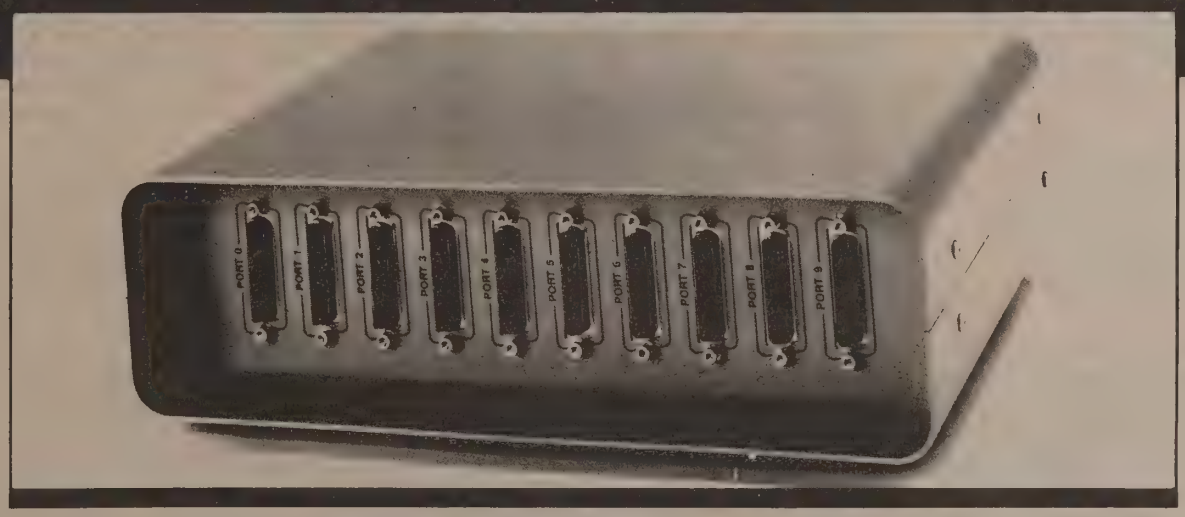

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Reflections On The White Boys' Club

By Brock N. Meeks

Buy a modem; join the club. A very exclusive club. Membership by default.

You joined the first time your modem screeched its first greeting to a remote computer; your name was forever inscribed in the registry of the information age's most elite group: The White Boys' Club. It's not hard to define the White Boys' Club; explaining it is harder.

A Color Blind Community?

The notion that the online community is "color blind" is false; online demographics, if tabulated, would show a staggering imbalance in our little community. Certainly the "color" of one's phosphor is pretty much the same, and, if you read between the lines, if you "listen" to the tenor of the thousands of messages, you'll find most sound alike. Why?

It's because the online community is dominated by white males, all from basically the same socio-economic group. There is a dearth of women, Hispanics, blacks, Asians, American Indians, and other ethnic groups — this in a medium which prides itself on being the "great equalizer," one that blurs the lines of race, color, creed, and gender.

Whose Fault Is It?

There is no boogieman, no closeted conspiracy to blame for the lack of minority participation in the online community. I wish there were — it would at least provide a standing target. The real reasons are much less tangible.

A black friend of mine proffered this comment: "How can you explain a 'society' that has so limited the options of many young blacks, as well as other minorities, that they have no incentive for using the technology of telecommunications? I mean, when a kid can make $800 a week selling PCP or crack on the streets, you're going to have a hell of time sitting him in front of a keyboard and convincing him to 'log on.'"

It sounded like something I might have said years ago: just as impassioned, just as well-intended, and just as wrong.

It is beyond arguing that minorities have fewer options than a "just society" requires. But it is also true that many fail to avail themselves of the opportunities that do exist. Is this "society's" fault? Not if by "society" we mean what my friend meant:

Copyright © 1987 by Brock N. Meeks. All rights reserved. *Brock Meeks is a San Diego-based freelance writer and columnist and card carrying member of the White Boys' Club, through no fault of his own.*

Minorities are absent from our little electronic enclave, not because of perversity or willfulness, but because of ignorance. It is, after all, tough to make such choices if you've never seen evidence that such choices matter, or even exist.

the White Boys' Club. It's more a result of omission than commission — the problem arises out of our failure to make these opportunities widely known, and fairly represented. Technical experts, high-tech "progressive" companies, journalists, teachers — all have to help drive home to those unaware of the opportunities online the simple fact that such a technology exists, and offers some potential improvement for their lives.

But we can do so only by avoiding two opposite traps. The first trap is the one my friend quoted above fell into: supposing that some amorphous "society" is principally responsible. The second pitfall is the one that proves so tempting to those that faithfully read George F. Will's weekly columns: the notion that the solution is to stop hand-holding the "disadvantaged," including their children, and hold them responsible for their unconcerned behavior; that we should simply demand they "shape up," "stop being stupid," and "get online."

Such outspoken "evangelism" about "going online" makes as much sense as lecturing me about what fork to use during high tea with the queen of England. Minorities are absent from our little electronic enclave, not because of perversity or willfulness, but because of ignorance. It is, after all, tough to make such choices if you've never seen evidence that such choices matter, or even exist.

There are no role models, or precious few of them. Online "evangelists" cannot even persuade the majority of those using computers to add a modem to their high tech arsenal.

Such feeble efforts as are made to "recruit" members of the minority community usually parade intangible "advantages" before their eyes: "It'll improve your life"; "You can upgrade your information base"; "It will make your life easier." We tell them that hard work and perseverance pay off: "Sure, the communications software is a little hard to use...Yes, it's confusing to set up your parameters, but it's worth it." And the litany goes on and on. There is little or no connection between such "online advantages" and everyday life.

Who Needs It?

The National Black Computer Network (NBCN) operated on The Source as a kind of "nationwide clearinghouse of black information resources," according to its founder, Mike Batie, vice president of engineering for PCE, a minority owned computer company. NBCN carried everything from the text of black newspapers to a black professional resume database for potential employers to scan. The system failed miserably.

Today NBCN is barely breathing. It exists only as a three-computer network, operating under RBBS software. If it were in the hospital its status would be critical.

For Batie, NCBN's troubles are something of a mystery; however, he offers a small explanation: "When black engineers have to struggle all through their education just to graduate, they don't see any advantage in learning anything else. If there's any black people reading this, they'll probably get mad at me, but the majority of professional blacks just don't care about being online. It's ignorance or a fear of the technology, not being aware of the power of the technology."

The only solution Batie sees is to "keep hammering, hammering, hammering" at the "technical masses" of black professionals. "If we can't even get the engineers online, how can we expect Joe Blow to log on?"

Simple. We can't.

And as I come full circle on this issue, I'm not so sure we should even bother trying to broaden the scope of minority participation. Perhaps all my carping is in vain.

When you're fighting to make the rent, get a decent-paying job, or hold down both a career and a home life, sitting in front of a computer keyboard and "communicating" hardly seems a life priority. And if "communicating" is one of the major advantages of this medium, well, the online world has little to offer.

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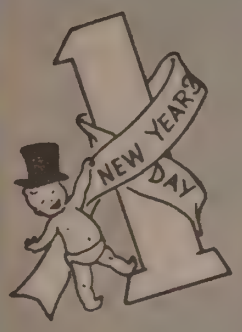

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DEALER INQUIRIES INVITED

The White Boys' Club is patterned after our white bread compartmentalized culture: cleverly cloistered lives, condo communities, corporate cubicles, and the recent phenomenon, "cocooning." This is an uptight culture where communication is a necessary evil; online we tailor our universe to whatever specifics we desire. It's safe to sit behind that keyboard and fire away. But it's not a culture that's attractive to ethnic groups that are traditionally closer knit and more open with each other.

Spend alternate Sundays in a white Baptist church and a black Baptist church, and prove it to yourself. The difference in the church services — even within the same denomination — is electrifying. The black church is much more open and spontaneous; the white church more staid. Perhaps the black community (and other minorities) don't have a need for "computer networking," as "human networking" is already built into their culture, built into their daily lives.

All For One, None For All

I recently put this subject as a series of questions to an elite subset of the White Boys' Club, the students and faculty of Connected Education, an online Master's degree program, under the auspices of the New School of Social Research in New York. After an initial week of silence ("Who the hell cares?" was the basic perception) Joseph Zuckerman, a student and 25-year career chemist, came up with the following gem:

"Must every cultural, social, economic, racial, religious and ethnic group be equally represented in every human endeavor? I think not. I can't play the violin, draw a recognizable likeness, or speak Urdu. I don't ever expect to be able to do those things. That doesn't make me feel left out. There are plenty of members of various minorities who have just as much opportunity as I do to use a computer and become part of the computer communications [community]. The vast majority of people, majority or minority, choose not to do so. Why make an 'us vs. them' issue about it? Freedom of choice does not equal discrimination when the choice is up to each individual to participate or not."

What happens 10 years from now when the online community "wakes up" to the fact that "we're all talking to ourselves" and finds a great segment of our society is technically "locked out" of our little club?

Zuckerman is right on the freedom of choice issue, but I'm not sure he's on target concerning the opportunity for access. Do minorities have equal access to the technology? I think not. But it's not because the opportunities are not available; minorities are simply not invited. At the risk of offering up a retread argument, education is the key to opportunity.

A National Science Foundation study shows that only two percent of the country's scientists and engineers are black. Few have taken the advanced math and science courses available in high school; the numbers aren't increasing. Trends along these lines (with the notable exception of Asian Americans) can be seen in other minority groups and among women.

There is little effort being made to draw minority groups into "technology" in general, let alone "microcomputer-based telecommunications."

The White Boys' Club certainly needs to do a lot more than it's doing to increase the range of opportunities at the educational level. What is not needed is a kind of "high priest" attitude that proclaims: "To be online is to save the world." Such self-serving hyperbole does no one any good.

Bringing minority groups online *en masse* is no answer, either. However, there is a real danger in not recognizing minority groups' lack of participation. If, when the technology is presented in an accessible manner (i.e. when the technology is presented as applicable to daily life), the minority community still chooses to remain "off line," the story line will read very differently.

To ignore that a problem exists, to cheer a "color blind" medium and roll merrily along, is risky. What happens 10 years from now when the online community "wakes up" to the fact that "we're all talking to ourselves" and finds a great segment of our society is technically "locked out" of our little club?

I am uncomfortable being a member of the White Boys' Club simply by default. If I, having knowledge of the problem, do not undertake to explore a solution, then I become part of that problem. And that is simply a mantle I have no wish to bear.

And, I venture, the mantle will look just as unbecoming on you. □

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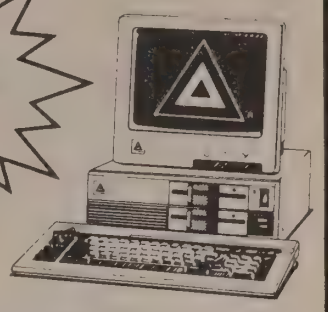

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The Word From COMDEX:

Atari Means Business

By Helmi Kobler

As promised in last month's column, I'm filing a report on Atari ST and Mega developments at the Fall COMDEX show (COMputer Dealers' EXposition), held in Las Vegas November 2-6. With approximately 100,000 people attending, it was a busy and crowded show. Atari's booth, located in the main hall of the Las Vegas Convention Center, was abuzz with activity.

Following what seems to be standard practice at industry shows, Atari brought along an assortment of independent developers who set up their presentations at various counters and cubicles within Atari's booth. Some of these developers were old favorites such as Antic, Soft Logik, QMI, and Data Pacific. Others were newcomers to the Atari market, and they brought with them a bunch of new products that I'll discuss a little later. Pioneer or fledgling newcomer, though, there was one common denominator that all participating developers shared, and it obviously reflected the message Atari wanted to convey at this show: that it's taking the business and professional side of computing very seriously. The dozens of products demonstrated in Atari's booth all fell into such productivity categories as desktop publishing and presentation, MIDI, Computer-Aided Design, connectivity, finance, etc. Not a single game was found on the floor. Likewise, Atari's new Mega 2 and Mega 4 "business machines" were used almost exclusively for product demos. I caught a glimpse of a lone 1040 ST running in some secluded corner of the booth, but that, I think, was the extent of the ST's presence at this COMDEX (Atari 8-bit computers such as the XE were not represented at all, by the way).

Of course, this doesn't mean that 520s and 1040s are being phased out by Atari or its developers. STs and Megas, with rare exceptions, are completely compatible, and although a 520, with its modest 512K RAM, may choke on some of the new memory-intensive applications, there's nothing to stop a 1040 from handling them. But I can see Atari's reasoning for pushing a business/professional image — at a show such as COMDEX where it's usually the "bigger and better" productivity stuff that gets the attention, it's smart for Atari to position itself as a business computer company after struggling with a game machine image for years.

In surveying the new products Atari announced at this show, it's clear that the old game-machine image is fading. For instance, you certainly won't find Atari's new Abaq transputer in any family game room.

In surveying the new products Atari announced at this show, it's clear that that old image is fading. For instance, you certainly won't find Atari's new Abaq transputer in any family game room. The Abaq is a 32-bit workstation that connects to any ST or Mega through its DMA port, and sports a $3500-plus price tag. It's based on the Inmos T-800 transputer chip which, thanks to a technique called "parallel processing" (where instead of the conventional single processor, multiple processor chips are used to work out computations), allows the Abaq to perform between 10 and 12 million instructions per second (MIPS). Terms like transputer, parallel processing and MIPS may all seem meaningless — in plain English, the Abaq runs over 10 times faster than an ST or Mega. It also offers four graphics modes that will make your jaw drop. The Abaq can display 16 colors in 1280 x 960 resolution, 256 colors in 1024 x 768, 256 colors in 640 x 480, and 16 million colors in 512 x 480. And you thought 16 colors in 320 x 200 looked pretty!

As you've probably gathered, the Abaq is a professional workstation designed for graphics-intensive applications — the kind of thing an engineer would use. Atari's no doubt hoping Abaq will challenge workstation leaders such as Sun Microsystems and Apollo — even the Macintosh II. Whether it will succeed or not is a hard thing to predict. Since the Abaq can't run ST applications (it uses the ST or Mega only as a terminal for keyboard input, etc.), Atari must convince software developers to write software for the Abaq. That will take time, and many users may be inclined to go with an established leader such as Sun instead of the new, albeit impressive, kid on the block. We'll see. The Abaq is scheduled for release in the second quarter of '88, though some Atari personnel I spoke with seemed hesitant about giving any solid release date for the machine.

Also announced at COMDEX was IDRIS, a new operating system developed for STs and Megas by Computer Tools International of Federal Way, Washington (206/838-4990). IDRIS offers two distinct advantages over the ST's native TOS operating system: it performs multitasking and processing, and is extremely similar to the UNIX OS, allowing for UNIX applications to be easily ported over to an ST or Mega running under IDRIS. Several such ports were demonstrated in Atari's booth, including three word processors, networking software and a point-of-sale system. Like the Abaq, IDRIS is not targeted for the average ST or Mega user. The current and prospective software that's to run under it is business-oriented, and I'm told that to get IDRIS's complete library of routines and utilities up and running takes nearly 20 megs of hard disk space. Unless you have a genuine need for multitasking and processing, you'd be better off running TOS business applications. IDRIS is available now from Computer Tools International for $800.

Atari's long, long, long-overdue (two years, in fact) Compact Disk drive was another item that surfaced at COMDEX. It could look a little handsomer, but what it lacks in aesthetics is made up in its $599 retail price (discounting could probably bring it under $450) and its ability to play music as well as read computer data.

The big deal about CD-ROM technology, of course, is its ability to store huge amounts of information on a tiny compact disk: 540 megabytes, or over 200,000 double-spaced typed pages, in Atari's case. The typical contents of CD-ROM disks are complete encyclopedias and other reference books whose contents can be accessed in just a few seconds. The only significant limitation to CD-ROM technology is that a CD-ROM drive cannot write to a compact disk, it can only read from it. Information, then, must be permanently written to the disk before it leaves the factory. Atari plans to ship its CD-ROM drive in February '88. Even if it makes it to the

Helmi Kobler took his first step into the computer world in 1983 when he walked out of Macy's with an Atari 800 in his arms. Still an Atari user, he's now inseparably attached to his ST. He can be reached through MicroTimes or e-mail <helmi> on The WELL at (415) 332-6106.

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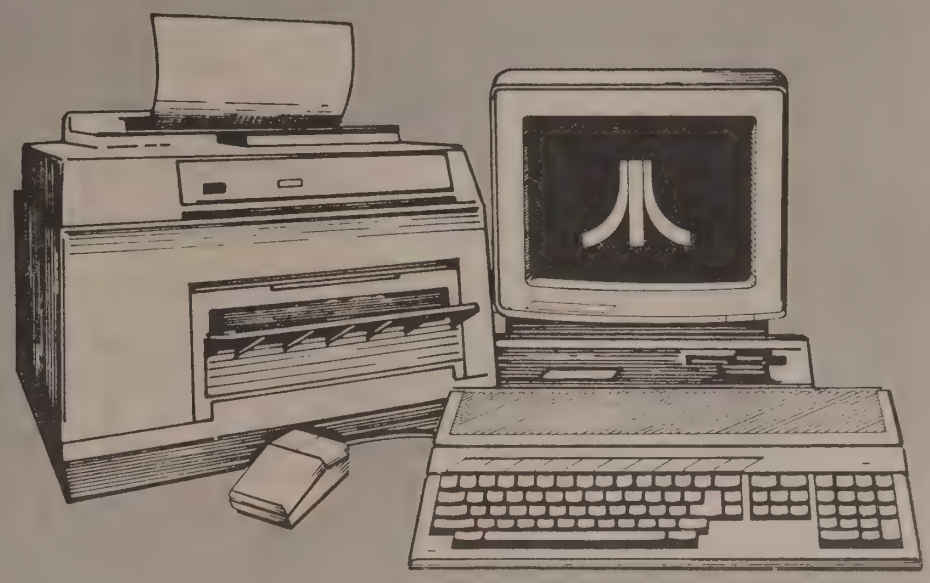

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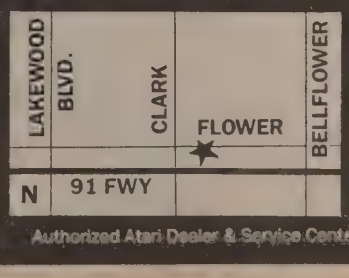

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store shelves on time, there won't be many CD-ROM applications to play on it. *Facts-On-File*, the only application I know that's being developed for STs and Megas, is a picture dictionary planned for release in early '88. It will be more than a year, perhaps, before ST users have access to on-line encyclopedias. On the other hand, Atari's announcement brings us a step closer to that goal.

If you're interested in hard disk storage, Atari also announced the Mega File 20 and Mega File 40, capable of storing 20 and 40 megabytes respectively. Though both units will work with an ST through its DMA port, these hard drives are designed to fit directly under a Mega's CPU. The Mega File 20 has a list price of $899, a little steep, I think, for a 20 meg hard drive. The 40's price has not been set yet; however, both models are expected to be available by second quarter '88.

As I said earlier, third-party developers showed a variety of software products ranging from MIDI to finance to CAD applications, but it was obvious that the new product trend was focusing on desktop publishing: I counted five new page makeup packages on the floor. *Publishing Partner Professional* is an enhanced version of Soft Logik's (314/894-8608) *Publishing Partner*, the ST's pioneer desktop publishing package. This new version, priced at only $149.95 (the original *Publishing Partner* will be priced at $89.95 at *Professional*'s release), will feature automatic kerning and hyphenation, text wrap around regularly and irregularly-shaped graphics, object grouping, text and graphics rotation and skewing, style-sheets and import compatibility with *First Word* and *WordPerfect* text file formats. *Partner Professional* is scheduled for first quarter release, and judging by the bugs and unimplemented features in the COMDEX demo version, Soft Logik must be hard at work trying to meet that date.

Atari's performance at the show was impressive, and the new products were exciting. However, IDRIS is the only COMDEX product available now. Everything else is "just around the corner."

G.O. Graphics's *Deskset* is another DTP package you can look forward to in '88. Unlike interactive page makeup applications that allow you to move page elements around the screen with a mouse, *Deskset* designs pages by way of Compugraphic typesetter commands. Although page design is more like programming than paste-up in this sense, *Deskset* offers a What-You-See-Is-What-You-Get preview mode. Although a command-oriented program is tedious, *Deskset*'s advantage over other publishing packages is that it can drive the 24,000 Compugraphic typesetters that exist in the U.S. G.O. Graphics is working on an adapter that will connect an ST to a Compugraphic machine, or *Deskset* files can be sent to typesetters through MS-DOS machines running the PC version of *Deskset*. And if you don't need typeset-quality output, *Deskset* is compatible with Atari's imminent SLM804 laser printer. PostScript printers, however, are not supported. Atari will be distributing *Deskset*, but has not announced a suggested retail price or release date.

The remaining three DTP applications shown at COMDEX were *Calamus* from ISD Incorporated in Canada, (416/479-1880), *GFA Publisher* from MichTron (313/334-5700) and Timeworks's (800/535-9497) *Desktop Publisher ST*, a surprisingly advanced package very similar to *Publishing Partner Professional*. Since I'm running out of room here, I'll have to report on these applications next month.

One quick observation about this Fall's COMDEX, though. Atari's performance at the show was impressive, and its new products, along with those from independents, were as exciting as the PostScript clones and fast 386 machines that were big deals to show-goers. But as you probably noticed in reading this column, IDRIS is the only COMDEX product available now. Everything else is "imminent" or "just around the corner." This makes me anxious, and dampens my enthusiasm for the new products announced. We all know how unreliable manufacturers can be when it comes to shipping products on time, and I bet that half of the products shown at COMDEX will never make it out the door, or will be delayed by months. So, though I'm encouraged by the strong show of support for STs and Megas, I can't get gung-ho over them. If they arrive when promised, I'll be happy. If they don't, you're sure to hear me gripe about it! □

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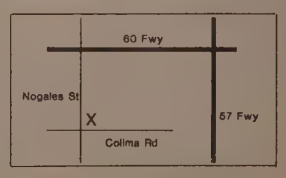

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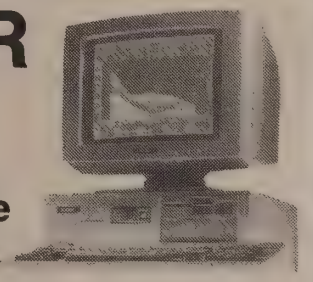

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Fading Into The Background

By Bennett Falk

The gurus were having a slow day until the phone rang, and an edgy voice on the other end of the line asked "Can you help me? I just tried to run something in the background and it didn't work."

Now usually running things in the background is easy enough. Any UNIX book will tell you that putting an ampersand ("&") at the end of a command line will run the command in the background. A simple example is the command to copy a file:

```
cp big___file big___file2 &
```

This command copies "big___file" to "big___file2." Depending on the size of the file, this could take a while. Putting such a command in the background gives the user a chance to do something else without having to wait for the file copy to complete.

"How do you know it didn't work?" the gurus asked.

"Well, I used 'wait,'" the caller replied.

The "wait" command is the customary way of checking on background processes. The user just types "wait" in response to the shell prompt and presses return. If another shell prompt is printed immediately, no background jobs are currently running. However, if the wait command does not immediately return another shell prompt, there are background jobs running.

Usually running things in the background is easy enough. Any UNIX book will tell you that putting an ampersand ("&") at the end of a command line will run the command in the background.

To see what these jobs are, the user must interrupt wait by typing Control-C or hitting the delete key (different keys can be configured to signal an interrupt, so it's wise to check with the system manager if the obvious choices don't work). When interrupted, wait prints the process id number and status of any jobs put in the background from the current shell.

"And what did 'wait' tell you?" the gurus inquired.

"Well, first of all, I didn't have to interrupt it; as soon as I pressed return, 'wait' printed a message and gave me a shell prompt. The message said:

```
[1] + Stopped (tty output) bbs."
```

In spite of its appearance, this is quite an informative message. First, the "[1] +" just indicates that this is the first of the current background jobs. "Stopped (tty output)" is the status of the job. The common statuses are "Running," "Stopped," "Done," and "Killed." A stopped job has entered computer limbo: it's still in memory, but for some reason cannot continue running. "(tty output)" is the reason this job has been stopped; it means the job was stopped for trying to send output to the terminal screen. Finally, "bbs" is the command that the user tried to put in the background.

It wasn't at all clear why putting this command in the background had failed. The gurus tried an experiment with something trivial. On their own system one of them issued the command:

```
ls -l &
```

When return was pressed, the UNIX process ID number for the background job was printed on the screen.

```
[1] 7102
```

This was followed immediately by the output of "ls -l," a long listing of the contents of the current directory. At least on the gurus' system, simply having "tty output" was insufficient cause to stop a background job.

Someone suggested to the caller that he try "ls -l &." He did, and it fared no better than his first command. Now "wait" told him that two jobs were stopped:

```
[1] - Stopped (tty output) bbs
[2] + Stopped (tty output) ls -l
```

Unhappy at the prospect of background jobs simply accumulating at his terminal, the caller was rapidly losing patience. At one point he tried to log out, only to be greeted with a vaguely accusatory message ("There are stopped jobs.") and another shell prompt.

The gurus did not improve things one bit by adopting an attitude of complacent mystification. Someone had the presence of mind to take the caller's number and tell him they'd get back to him shortly.

The gurus adjusted their bow ties and began to ruminate on what it means to run something in the background. They all conceded that managing background jobs does take a little common sense. On many UNIX systems, once something is in the background, it can't be brought into the foreground again. It makes no sense to put something in the background if it needs more input from the user, and many UNIX systems will simply stop any background process that tries to get input from a terminal.

On many UNIX systems, once something is in the background, it can't be brought into the foreground again. It makes no sense to put something in the background if it needs more input from the user, and many UNIX systems will simply stop any background process that tries to get input from a terminal.

Similarly, it takes some care to manage the output of a background process. Putting a job that has output in the background makes no sense if the output comes to your screen and you have to wait for the output to scroll by on the screen.

But as the gurus had proven to themselves, just because a thing makes no sense doesn't mean it can't be done.

The smart thing to do with a background job's output is to re-direct it to some destination other than the terminal's screen. The "ls" command could be put in the background like this:

```
ls -l › files &
```

"› files" tells the shell to put the output from the ls command in a file named "files." The output can be examined later at the user's convenience.

At length someone remembered that the gurus needed to return the user's call. They did so, and the first order of business was to get rid of the two stopped jobs that had been hanging around.

The gurus had already ascertained that the user's system was running 4.2 BSD, a version of UNIX developed at the University of California at Berkeley. Berkeley UNIX is justly famous for having taken the idea of background processing a step or two further by building several "job control" commands into the C-shell. These com-

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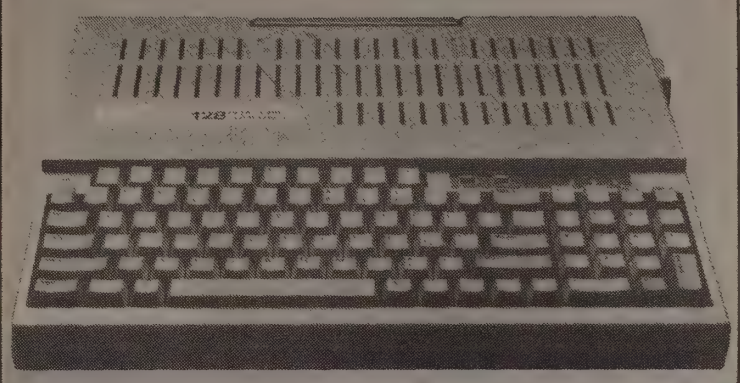

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mands are "fg" to bring a stopped job into the foreground, "bg" to resume a stopped job in the background, "stop" to suspend a job running in the background, and "jobs" to list stopped and background jobs being run from the current shell. These built-in commands can be used with a special "suspend" interrupt ("^Z" or "^Y") which will stop a job running in the foreground and bring the user's login shell into the foreground to accept commands.

The gurus suggested that their client type "fg %2" and press return to bring the job 2, the "ls" command, into the foreground. He did so, and immediately the output of "ls -l" scrolled across the screen.

This had a salutary effect on the client's state of mind, and when "ls" finished, he was left with a shell prompt. Next he typed "fg %1" to bring the "bbs" command into the foreground.

"bbs" turned out to be a command to read a bulletin board on the client's computer, and rather than wait for a lengthy session to finish, the gurus urged their client to use ^Z to suspend the job and then kill it with the command "kill %1." He did this and so found himself back where he started, wanting to run "bbs" in the background and having no way to do so.

The gurus were unwilling to admit defeat on this matter, and quickly asked if they could have permission to dial in to the client's system and tinker with ways to put "bbs" in the background. Somewhat warily, the client consented, and shortly the gurus had their dialup connection and were crowded around a terminal trying to solve the problem.

The first suggestion was to re-direct the output of bbs into a file. But the command

bbs › read___me &

Berkeley UNIX is justly famous for having taken the idea of background processing a step or two further by building several "job control" commands into the C-shell.

also stopped as soon as it was executed. Again the reason that was given for stopping the job was "tty output." The gurus realized belatedly that their command re-directed only "standard output" and did nothing to handle a second output stream ("standard error") that most UNIX commands have.

In the C-shell, re-directing both standard output and standard error is cumbersome, but after looking at the manual and thinking a bit, one of the gurus came up with a command that worked. It looked like this:

(bbs › read___me) ›& bbs___error &

While this did what everyone wanted, none of the gurus was particularly eager to explain such a command to their client.

Furthermore, the example of this technique which appeared in the C-shell manual was followed immediately by an ominous warning: "Although robust enough for general use, adventures into the esoteric periphery of the C-Shell may reveal unexpected quirks."

Dismayed, they searched for alternatives. Someone idly formatted the C-shell manual entry and re-directed it to a file. Having nothing better to do, someone else "grepped" this file for the word "output" and then looked up each occurrence in the manual. At the end of the Job Control section of the C-shell manual was a reference to something none of the gurus had encountered before: "tostop," an obscure argument to the "stty" command. "stty" is a command to set the characteristics of a terminal connection. It can be used to set all sorts of things including, as the gurus now learned, whether or not background jobs would be allowed to produce terminal output.

First, the gurus used the "stty everything" command to check all the stty settings on the client's machine. To no one's surprise, "tostop" was set. They checked their own system and verified that "tostop" was turned off. Finally, they turned "tostop" off on the client's computer with the command "stty -tostop" and then attempted the simple test with the "ls -l &" command. The command was launched into the background and was unimpeded in sending its output to the screen.

The gurus whooped with delight and spent some time congratulating themselves. Finally, someone called the client, who dutifully took down the commands he was given, listened to a lengthy explanation of the problem and its solution, and thanked them politely. The client chatted amiably, hoping no one would realize that he'd forgotten why he wanted to run the bbs command in the background in the first place. He needn't have worried. □

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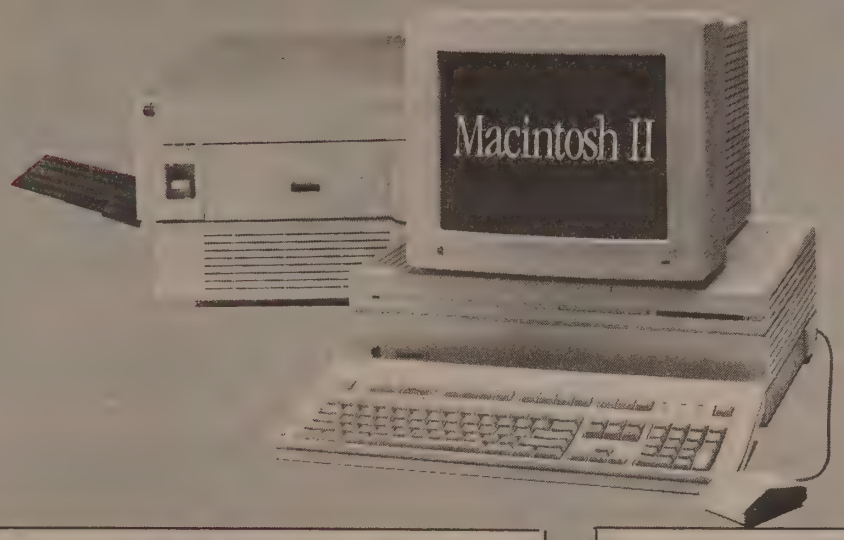

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Ashton-Tate's Free BBS, And Other News

By Mary Eisenhart

Good news for **Ashton-Tate** users: A-T has announced the **Ashton-Tate Support BBS**, a multi-user board that offers free support to users of MS-DOS or Macintosh computers. Its primary function is to provide technical support and answer questions about A-T software; customers will receive an answer to their question from company technicians within 24 hours of their call. The board also offers multi-user teleconferencing, electronic mail, classified ads, separate bulletin boards for each of the company's products, and a file library of sample software programs and articles from Ashton-Tate's monthly *Technotes*. The board will also be used to conduct marketing surveys among its subscribers.

Rich DiGiovanni, A-T vice president of its Support, Services, and Information Group, comments, "We hope to serve thousands of Ashton-Tate customers with this new support alternative. It also gives us a direct line to the people who use our products, serving as a valuable mechanism for feedback."

The board is accessible at (213) 538-6196; out-of-area users can reach it via PC Pursuit. If you'd like more information, call **Lynn Fireside** at Ashton-Tate, (213) 538-7011. We'd like to salute Ashton-Tate for offering users this valuable free support resource, and encourage other companies to follow suit.

One More Time: Thomas Donaldson of Sunnyvale raises a question which may be on some of your minds. "Some time ago," he writes, "we sent a notice to *MicroTimes* of our bulletin board, **Cryonics and Immortality BBS** (8N1, 1200 baud only, 714/734-0139, 3 pm to 6 am PST). We were very pleased to notice that we got a mention in the October 1987 issue (#36). However, since that time our listing seems to have disappeared."

Yes, Thomas, your listing, and others sent to us in the last couple of months, are in something of a state of suspended animation themselves. As many of you may have noticed, our listings have been essentially in a frozen and unchanged condition for the last few issues, and they will continue to be so through this issue and the next, March.

Our April issue, as we've explained previously, will feature all-new listings which will be updated quarterly. These new listings will be limited to 15 words; we reached this decision with some regret, in the full realization that many organizations and boards offer a pretty wide range of features and benefits. However, confronted with all too many "listings" that approach 500 words in length, and being endowed with limited time and space, we have felt compelled, in fairness to all, to set this limit. Those who feel that they can't possibly do their system or organization justice in 15 words are cordially invited to include in the ad a phone number or address where interested parties can obtain further information.

This means several things. One, if you've sent us a listing since November 1 or so, and if it's current and 15 words or less, you should not panic when you don't see it in the listings. Two, if you have *not* sent us an updated listing, or if you're thinking better of that *War and Peace*-length listing you sent us and its probable fate with Procrustean editors, time's a-wastin'. Use the form in this issue, and send us your new listing ASAP. **We must receive your listing by February 1, 1988, if it is to appear in the April issue.**

We'd also like some feedback on a related issue. Historically, we've listed bulletin boards in all area codes; recently, for lack of available space, we've occasionally run only Southern California area code listings in Southern California, Northern California only in Northern California. Having received one or two worried letters about this, we'd like to ask for a show of hands, as it were — how important are listings of bulletin boards outside your area to you? Are you PC-Pursuiters checking out boards all over the country, and in need of non-local listings? If you feel inclined to drop us a line on the subject, please do so: US mail to User Group Network, 5951 Canning Street, Oakland, CA 94609, e-mail to **microx** on **The WELL,** (415) 332-6106.

Speaking of out-of-area BBSs, from the beautiful Ala Moana Hotel in Honolulu comes a listing for the **Cassia Express BBS** in **Singapore,** (065) 344-9163. It operates 24 hours a day and supports 300/1200/2400 baud rates. The sysop is N.M. Rahman.

Also BBSing in foreign lands: **Fidonet Argentina,** the first Fido node in Argentina, which has over 450 subscribers. It specializes in South American issues, and has public domain software libraries. Sysop **Pablo Kleinman** invites you to call his board from 3 pm to 11 am PST. Parameters are 8-N-1, 300/1200 baud; the board's number is 011-541-22-4197.

Once again we hear the cry of the orphan. **Harley Ristad** of the **West LA Amstrad User Group** writes that the group is now the **Amstrad User Group, USA.** He continues: "Sears has dropped the Amstrad PCW8256 [sold as a word processor, but capable of other feats] and has made orphans of all PCW8256 owners, so we must now support each other more than ever. Because the PCW8256 uses CP/M, not MS-DOS, it is not IBM compatible. In addition, it uses a non-standard 3" disk. Further, the documentation is far from complete. For these reasons there is a special need for an international Amstrad PCW support group.

"I am a retired computer engineer and, as a labor of love, I will, pro bono, endeavor to meet this need, and I greatly appreciate your contribution to getting the word out." So if you're looking at that Amstrad and scratching your head, call Harley at (213) 397-7981, and encourage him in his laudable efforts.

Also on the orphan front, the **San Fernando 99ers' Jim Edwards** of La Crescenta writes, "It has been over four years now that Texas Instruments got out of the home computer market. After a brief panic, users settled down, banded together, and formed an extensive network of user groups that remains very strong today. Our monthly newsletter lists ten active TI-99/4A user groups in the LA area alone." Jim adds that the SFV 99ers have recently changed their mailing address — it's now 2823 Sanborn Ave., La Crescenta, CA 91214. You can also get more info by calling Jim at (818) 248-9558.

That's it for another month. Remember, keep those spiffy new elegantly-brief listings and news about your group's activities coming, to User Group Network, 5951 Canning Street, Oakland, CA 94609; email to microx on The WELL, (415) 332-6106. And as ever, thanks. □

BULLETIN BOARDS

213

Lynzie's Motherboard (818) 508-6482/(213) 650-0519. 24 hours, 300/1200/2400 baud, 8-N-1. Private E-mail, download library, dating matchup, interactive chat between users, 4 phone lines on rotary. Public boards include employment, food and restaurant reviews, sci-fi, political, debate, for sale and many more. Monthly social happenings for local users. Sysop: Lynzie Flynn.

Bulletin Board System. BBS devoted to handicappers and racing fans in So. Cal. On line every weekend. Log-on: race data for Santa Anita, Hollywood Park and Del Mar. (213) 934-6026.

Videodrome BBS. Where computers and video meet. (213) 324-5882. Open weekdays 4 pm - 2 am, weekends 12 pm - 2 am. A Commodore 64 system.

HUG1. (213) 874-8256. 300/1200 baud, 8-N-1, 24 hours. The official BBS of the Hollywood Commodore User Group (HUG). All HUG members and visitors are welcome to drop by. Sysop: Jose Vasques.

International Collectors Network. Coins, stamps, baseball cards, books, records, antiques and anything collectable can be bought, sold, or traded on the International Collectors Network BBS. Regional lists of collector events and shows in many categories. Also names and addresses of many collector organizations. Accessible using PC Pursuit. Data phone available 24 hours, 7 days at 300/450/1200/2400, 8, N,1. (213) 204-0646.

The Computer Consultant's Network, (213) 479-4074. Running a modified version of Martian! Software. 24 hours a day. This is not a job board, but merely a place for computer professionals to network and share information.

Computer Conference Center. (213) 212-5267. TBBS w. Commodore, IBM, TI, Atari, Epson, Apple etc. sub-boards. Large DL with CP/M, MS-DOS and TR-DOS programs. Laurie Flood, sysop.

Hughes Aircraft Message Service. Uploads and downloads for Mac, IBM, Commodore, Atari, etc. Public message boards. (213) 549-9640. 300 1200, 24 hrs., 7 days.

Monolith-1.7 great public boards, private electronic mail, social events. (213) 659-JEDI. 24 hours, 1200 300. Sysop: Erik Goldman.

Mid-Cities Atari ST BBS. 300 1200, 8-0-1, 24 hours. (213) 867-1943. Sysop: Darin Ferraro.

PC Heaven. A multi-computer BBS that features downloads for many different PCs. E-mail, files for various machines, general to SIG message bases. No fees, no special application request forms. Just a fun BBS for everyone. (213) 374-7929. 300/1200, 7 pm-7am M-T, 24 hrs. F-S-S. Sysop: Tony Reeves.

T.U.S.D. (213) 533-4545, 10+ megs downloads, WWIV software, BBS list, several message bases and SIGs, mail, online help. Run on IBM AT, 24 hours for summer (5pm-7am during school). Free, 300/1200 baud. Sysop: Wayne Hoover.

Jukebox Bulletin Board (JBBS) (213) 670-8053. 8-N-1, 24 hours, 7 days, 300/1200 baud. Message board for buyers, sellers, and anyone interested in antique jukeboxes. Free. CP/M password available on request. No Fees. sysop: Ray Etchepare.

Secret Partner 1. (213) 543-5273. 8-N-1, 24 hour, 300/1200 baud. "Find your long-awaited sweetheart." Walter F. Howard, sysop.

Time-X-Change. (213) 329-3922. 8-N-1, 300/1200 baud, 24 hours. The West's only BBS dedicated entirely to the Timex-Sinclair and CP/M user. Online games and information programs, full feature electronic mail and message system, public domain software. Free. Sysop: Dave Clifford.

Videoman RCP/M and Media Man Database. (213) 666-8588, 300/1200 baud. Hollywood's only remote computer for the show business and entertainment community. Free comprehensive databases, including hard-to-find products and services (US and Canada), television/motion picture production /post production services (worldwide), Los Angeles restaurant guide, remote access computers (world-wide), People In Entertainment and many more. CP/M, MS-DOS pd programs. 40 megabytes and growing. 7 days, 24 hours. Sysop: Norman H. Strassner.

Bloom County "Nochange" BBS. (213) 615-0528, 8-N-1, 24 hours, 7 days, 300/1200/2400 baud. Bloom County is an IBM BBS running Nochange software. This system features online games including Pyroto Mountain, 200 Sector Tradewars, Empire, Original Adventure and more! There are over 30 megs of space devoted exclusively to the latest PD software and a great e-mail system too. Call the ultimate bulletin board today. Sysop: Brody Schiess.

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CompuCenter Long Beach. (213) 421-1041. 8-N-1, 24 hours, 300/1200. Multi-interest board in Long Beach with everything from Aviation sub-board to Mature Topics and IBM, C64/128, and Amiga. Sysop: Ken Cothern.

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The Starship Sardonyx Net. (213) 467-6667. 8-N-1, 300/1200, 24 hours. We offer extensive general files, online games, up and download subs, 8 message bases, e-mail. Large public domain section for Commodore users. Sysop: Zed Yago.

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The Luv Connection. (213) 663-6886. 300/1200/2400 baud. 8-N-1, 24 hours. Nine lines, private e-mail. Chat online with other users. 28 different boards to access in the Tack Room: The Perfect Matchmaker, Dating, Music/Video/Film, Sports, Robotics, Computer Stuff, Programmers Lounge, Handicapped (Physically Impaired), Sauna, Men's Locker Room, Powder Room, Take Aim. The largest library in SoCal for the latest demos and Public Domain programs for D/L. Luv Connection Network offers true nationwide networking. Prime sysops: Todd & Charlotte.

LAAUG-LINE. (213) 559-7367. 300/1200, 7 days a week, 24-hours. Sysop: Gary Woolard.

Hollywood Commodore User Group Hug #1. (213) 466-3049. 8-bit, no parity, 1 stop, 24-hours, 300-1200 baud, running on C-NET. Sysops: Joss A. Vazquez & Zed Yago.

Alinco Ind. RBBS. (213) 402-4716. 300/1200/2400 baud, N-8-1. Upload and download of public domain files. E-Mail, conferences: games, communication and technical references, systems and peripherals price list. This is a totally new board. Sysop: Albert Chang.

Long Beach AIDS Information BBS. (213) 663-2025. 24-hours, 300/1200 baud. Information on AIDS issues, especially experimental drug therapies. Also serves as a forum for discussion. Sysop: Ken Ragge.

The Long Beach Bulletin Board. (213) 438-6783. N-8-1, 24 hours, 300/1200/2400 baud. The Long Beach Bulletin Board has been in operation for over three years supporting 3000 plus users. We have over 60 megs online with over 1500 files for downloading. Special Interests Groups include AD for BBS notices and sale items, CD for all CAD/CAM applications, COMM for discussing communications topics, GAMES, MIDI and STARFLT. All SIGS are open to the public. Call one of Southern California's oldest RBBS systems in operation. Sysop: Forrest Litke.

Landing Strip. (213) 597-7773. 300/1200, 24 hours, WWIV software. A computer board service dedicated to aviation and online adventure games. Features aviation related downloads for IBM computers and has download areas for Apple and C-64. Unique online games that must be played to be fully appreciated. Sysop: One-Eight Charlie.

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Melodyland BBS. (213) 225-9279. 8-N-1, 24 hours, 300/1200 baud. Melodyland is a message only BBS with several conferences filled with stimulating discussion. Also features a "Friends of Bill W." area specifically created for members of Alcoholics Anonymous and other 12-step programs. The AA section features a local "e-meeting." Melodyland is a participating node in the Recovery National Network, a nationwide "echo" for members of the 12-step programs. Sysop: Melody

(PG) Board. (213) 836-6439. 24 hours, 7 days, 300/1200 baud, 8-N-1. Relationships, sexuality, money, morality, economics, politics, religion, art, music, literature, theatre, philosophy, the nature of the mind. If they mean a great deal to you, please give us a call. No uploading or downloading. Conversation only.

CompuCenter/LA. (213) 435-3757. 8-N-1, 24 hours, 300/1200 baud. Multi-user board including conferences for Amiga, IBM, C64, C128, TRS-80. Reviews on software and hardware. For Sale section and much more. Up/Downloads section for all listed. Sysop Rick Gaspa.

Ump's Video/Communications BBS. (213) 413-1146. 300/1200 baud. 4:00 pm to 2:00 am. Hundreds of video/movie titles waiting for you. If you're a serious videomaniac and absolutely must have your very own copy of "Porky's," "Dracula," or "Rocky IV," we've got all the titles you'll ever want. R, PG and G ratings. Drama, Horror Thrillers, Musicals, Sci-Fi, Comedy and Classics. To order, complete the order form in the order file or call us directly at our Los Angeles office. Also available to users is our Resume Transmittal Service. Input your resume onto our transmittal file. Each month we mail over 200 transmittal diskettes to companies looking for skilled people throughout Southern California (soon to be a nationwide service.) No fee for first time users. Sysop: Stephen R. McCormick.

Gladiator's Den. (213) 860-2221. 300/1200 baud, 8-N-1, 24 hours.

Computer Quick, Inc. (213) 941-3554. 300/1200 baud. Even, 7 data, 1 stop. BBS dedicated to repair, upgrade or information on computers only. Sysop: Sam Noonon.

Spenser's BBS. (213) 732-0109. 8-N-1. Sysop: Chris Spencer.

Amiga Exchange. (213) 325-1796. 300/1200 baud, 8-N-1, 24 hours. Downloads, uploads, e-mail, news, rumors, operating tips, hardware/software reviews, classified ad section. This is a new BBS. Sysop: R. Takahashi.

The Westside. (213) 933-4050. 300/1200/2400 baud, 8-N-1, 24 hours. Ten lines with private and group chat, e-mail, match, 30 public message and game boards, on-line library and electronic buyer's guide/database. Sysop: Dave.

Star Wars Lovers Of America (213) 867-7724. No modem. 9:00 am – 12:00 pm. Run by the Driveway Group Ltd., User Group. Devoted to LucasFilms and Star Wars. Tracking of software, figures, data and more. If you have the SW collection, figures, any software that pertains to SW then call. We could buy, sell, trade, items. Information on new releases from George Lucas. We love Star Wars and George Lucas. If you do too, then call. Sysop: The Force.

The Beta RBBS. (213) 393-9777. 1200/2400 baud. No 300 baud allowed. 24 hours. New feature articles for audio and videophiles. A special emphasis on the latest video technology. Other recent additions include movie and concert reviews and movie news. Beta RBBS is not another downloading service but a BBS that entertains with informative bulletins and lively discussions.

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619

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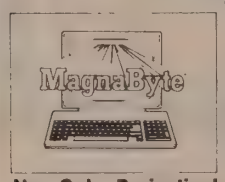

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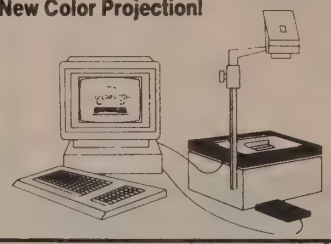

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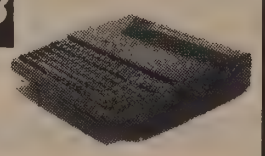

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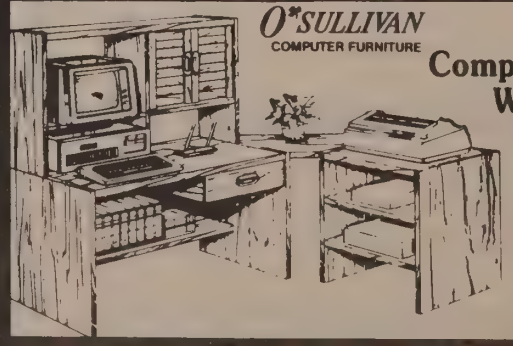

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Luv-A-Hug Moonbeams B.B.S. (818) 772-0384. 300/1200 baud, 8 data bits, 1 stop bit, no parity. Full access restricted to members of Luv-A-Hug only. 25 Megabytes online. IBM compatible, Z-100, and CP/M public domain software. Sysop: Greg Cook.

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Inner Realm. (818) 352-7102. 300/1200 baud, 24 hours. Atari Forum ST. Chess Club. Sysop: IR ROM.

The Space Station-Shopper/BBS. (818) 286-8539. 300 baud, 8-N-1, 24 hours. Brand new, check us out. Sysop: Hugo.

Affection Connection. (805) 527-7464 (Simi Valley), (805) 529-7311 (Moorpark), (805) 496-3657 (Thousand Oaks), (818) 704-8588 (Canoga Park), (818) 367-0248 (Sylmar). 300/1200 baud, 8-N-1, 24 hours. Multi-line/multi-user BBS with on-line chatting. We're a local call to more users than any other BBS in southern California. Member of the Southern California Sysops Association. Running on an IBM clone, we welcome users of all systems. We have users under 15 and over 50, so if you can't find someone interesting you must be dead from the neck up! Upload/download areas for IBM, Apple, C64. UL/DL includes text, games, utilities and more. Public message areas for anonymous advice, bad jokes, general interest, music, movies, buy, sell trade. Always adding new features. "Match-making" to help find that special person, and private e-mail for whispering your sweet nothings. Whatever your interests you'll be glad you called. Come visit our comfortable old manor house and make it your "home away from home." Sysop: Devin Z. Woods.

The Adobe BBS. (818) 401-9611. 300/1200/2400 baud. 24 hours, 7 days. Message bases, Atari P/D Files.

Makom Ohr Shalom. (818) 609-1808. 300/1200 baud, 8-N-1, 24 hours. A Jewish BBS with chat mode, downloads, public boards. Religious, secular & humorous themes. Sysop: Don Goldberg (Don 1).

Cryonics And Immortality BBS. (714) 734-0139. 1200 baud, 8-N-1, 3:00 pm to 6:00 am PST. No fee except phone company charges. An information exchange for immortalists and cryonicists. Sysop: Hugh Nixon.

The Scream BBS. (818) 287-4570. 1200/2400 baud. 8-N-1. 24 hours, 7 days. 200 MBs! Full color, online games. Files are for IBM and compatibles only, but all systems are welcome to use MESSAGE base and DATABASE. Merchant sub-board, computer shopping list, great conversation. UL/DL section and much more! This BBS could have the fastest response time around, so you don't have to wait for anything! Free to the public. Online registration is required before full access is given. So when you're ready for a change, Do something different, call Scream BBS. Sysop: ECIII.

Prime Time BBS. (818) 982-7271. 300/1200 baud. 8-N-1, 24 hours. Features private e-mail and multi-interest public boards. New feature: "Computer Shopping" includes wholesale pricing on complete systems and peripherals, disk drives, keyboards, cases, monitors, printers and specials on software. Sysop: Bill Martin.

ASSOCIATIONS

Computer Professionals for Social Responsibility. The LA chapter is interested in computer reliability and preventing nuclear war, the socially useful direction of computer research, and similar topics. They meet most third Wednesdays at 7:30 pm at varying locations. Contact Rodney Hoffman, P.O. Box 66038, Los Angeles, CA 90066, (213) 932-1913 for more information.

Organization of Professionals, Educators, and Novices (OPEN). Tutorials, random access period, feature presentation, public domain library, and CP/M literature are all part of the monthly meetings of Osborne owners/users and MS-DOS transportables. Club BBS and newsletter. Call Frank L. Christ at (213) 498-4186 for more information. Meetings at Learning Assistance Center, CSU Long Beach, 3rd Wednesdays, 7 pm.

The North Orange County Computer Club. This group is the largest and perhaps the oldest in the county. It is affiliated with a large number of special interest groups and offers something for just about every user. General meetings are usually the first Sunday of every month in the Hashinger Auditorium, Chapman College, Orange. For info, call (714) 998-8080.

The South Orange County Computer Club. A general computer club that meets the first Tuesday of every month at 3545 Harbor Blvd., Costa Mesa. Meetings begin at 7:00 P.M.

Valley Computer Club. Monthly meeting at 7 pm, first Wednesday of month in Burbank Board of Realtors Bldg., 2006 W. Magnolia Blvd., Burbank. All types of micros represented.

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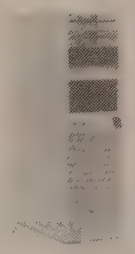

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San Diego Computer Society. Umbrella organization for over 40 Special Interest Groups (SIGs). Sponsors meetings, newsletters and annual computer fair. Meetings at Mesa College, 7250 Mesa College Drive, San Diego, 11:30-4, third Saturday each month. Contact Membership Chairman, P.O. Box 81444, San Diego 92138, (619) 549-3783. BBS (619) 549-3788.

Consolidated Computer Club. Dues $25 yr. For meeting place and time send SASE to David Nussbaum, 14200 Polk Street, #53, Sylmar, CA 91342-2966, or call (818) 362-9718.

Hughes Aircraft Computer Clubs. This club is for Hughes Aircraft employees only, but the BBS is open to everyone. Upload and download boards for Macintosh, IBM, Atari, Commodore, etc. Each board has its own public message service plus general message board. Contact Bud Grove, 21111 Dolores #146, Carson, CA 90745. BBS (213) 549-9640, 300/1200 baud, 24 hrs., 7 days.

Ventura Personal Computer User's Group. All MS-DOS and PC-DOS machines. Meetings 3rd Saturday 9 am-12 noon, Foster Library, 651 E. Main, Ventura. Contact Mike Regan, President, 301 Dana Point, Ventura, CA 93004, (805) 647-8273.

Micro User's Group — SFV Board of Realtors. Meetings 7232 Balboa Blvd., Van Nuys, 7 pm. third Thursday. Contact Mary Lou Williams, (818) 786-2110 for more information.

South Bay Computer Education Group. Supporting Apple, Atari, Commodore, IBM and compatibles, and TI99/4A. Meeting 2nd Wednesday of each month. Time 7 pm at 3675 Torrance Blvd., Suite 202, Torrance, CA 90503. Contact Jack Ward (213) 530-4879 or Judy Adams (213) 540-5010.

UCLA PC Users Group. IBM PC or compatibles owners welcome to join us on the 2nd Tuesday of the month, 7 pm. Public domain library , SIGs, BBS, seminars and newsletters. NPI Auditorium, UCLA, Westwood Plaza, Level C. For more information call (213) 473-6668.

Citizens Veto. For users with an interest in socio-economic issues who might want to try their equipment in working a model of a new approach. Primarily graphics and numbers, minimal text. Ewald O. Schlachter, (415) 452-0151.

ICCA (Independent Computer Consultants of America. A nonprofit national association dedicated to the independent computer consultant. Its goals are to promote professionalism within the industry, increase awareness of ICCA to clients, and provide group benefits to members. Meets at Revere House, Tustin, 2nd Thursday, 6 pm. Contact Bill Creel, membership chairman, ICCA-OC, P.O. Box 3067, Santa Ana 92703, (714) 666-1981.

LAC-BUG (Learn About Computers — Beginner's Users Group. All computer owners and prospective owners eligible, ages 3 to adult. Educational materials and hands-on training included with membership. 24 hour telephone: (213) 372-8909. Mailing address: 6506 Arizona Avenue, Suite 127, Los Angeles, CA 90045.

Association For Women In Computing. L.A. Chapter meets on the second Wednesday of the month, 6:00 pm, at the Proud Bird Restaurant, (near LAX). Contact the Program Chair at P.O. Box 3966, Torrance, CA 90510. (213) 657-0327.

Southern California Geneological Society Workshop. Meets the fourth Saturday of the month, 4:00-6:00 pm, at the SCGS Library, 122 S. Golden Mall (rear), Burbank, CA 91502. A self-help group to provide a forum for information and experience exchanges on the use of computers in geneology. Contact W.R. Robinson, SCGS, P.O. Box 4377, Burbank, CA 91503. (818) 368-1383 or (818) 843-7247.

NATIONAL/ INTERNATIONAL

Network Users Association. 2111 Eisenhower Ave., Suite 400, Alexandria, VA 22314. (800) 638-8510 or (703) 683-8500.

TPUG World's largest Commodore Users Group. $25 annual membership entitles you to access to library of public domain software for C-64, VIC 20, PET, CBM, SuperPET, B-128. Coming soon Plus 4, C-16, C-128. New disks added each month. Also TPUG Magazine (10 per year), free access to TPUG's Bulletin Board Modem System, 24 hours, 7 days. TPUG Inc., 5300 Young St., Willowdale, Ontario, Canada M2N5R2, (416) 733-2933.

Apple Co-op. 290 SW 43rd, Renton, WA 98055. (201) 251-5222.

JUG (Jefferson State Computer Users Group). Many SIGs, newsletter. Dues $5.00 year, some SIGs additional. Contact JUG, P.O. Box 457, Gold Hill, OR 97525-0457.

MicroPro Users Group of America. National group with over 200 members worldwide. Dedicated to supporting MicroPro products, especially WordStar and InfoStar, for any hardware. c/o Procyon Associates, 140 Riverside Drive, New York, NY 10024. (212) 595-4811.

Golden Apple Club, Apple II and Macintosh. Contact Stefano Minotto, Golden Apple Club, Riviera Tiso da Camposanpiero, 26, 35100 Padua, Italy.

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Getec s.r.l. Contact Silvio Esengrini, Via dei Guarneri Nr. 24,-20141 Milan, Italy. Phone: 39/2/5696502, 39/21 5694185.

Italtel S.p.a. Contact Michelangello Sala, C.Na, Castelletto, 20090 Settimo Milanese, Milan, Italy. Phone 39-2-4388-4288.

PLUG (The Plus/4 Users' Group). Dedicated solely to support of the Commodore Plus/4. No regular meetings, 200 members in US, Canada, Mexico, and Europe. Newsletter, public domain software library. P.O. Box 1001, Monterey, CA 93942.

KAPPA (Memphis Kaypro Users Group). Meetings at 2 pm, 1st Saturday of the month, Room 2, Jennings Hall. Contact Hugh Lamar, 5983 Macon Cove, Memphis, TN. (901) 377-4140.

The AppleWorks Users Group (TAWUG). c/o Regional Rep, 27421 Berenda Way, Hayward, CA 94544, (415) 887-7499.

FORTH Interest Group, International Office. P.O. Box 8231, San Jose, CA 95155. For further information call (408) 277-0668.

Apricot User Group (APRICUG). Box 98, Malverne, NY 11565.

Spellbinder Users' Group has an international newsletter with useful macros written by members, advice on new applications, news, and word-processing problem solving. All experience levels. California members welcome. Write P.O. Box 14, Newark, Notts, England NG24 4TP; telephone (0636) 77313; telecom Gold/Dialcom Mailbox 72: MAG95610.

National TeleVideo Users Group. Meets 7:30 pm, 3rd Thursday, 1170 Morse Ave., Sunnyvale. P.O. Box 22007, San Francisco, CA 94122. Call for info — David, (415) 753-1552.

Apple Fontrix Club. Monthly newsletter. P.O. Box 29857, Thornton, CO 80229-0857.

N.A.B.V.I.C.U. - The National Association of Blind and Visually Impaired Computer Users. The purpose of this group is to gather information that will assist the blind or visually impaired person in utilizing the enormous potential of computers. It supports **CompuHelp**, a menu driven database-bulletin board programmed for use by the blind and visually impaired. It is available 24 hours a day, 7-days a week, 300/1200 baud, 8 or 7 bits, even or no parity, 1 stop bit. (916) 786-3923. Compuhelp is also available on disks. For more info, contact Otto C. Haiungs, Chief Executive Officer, Sysop, at P.O. Box 1352, Roseville, CA 95661-1352. (916) 783-0364.

28 Barbary Lane. Meets at 121 13th Ave. East, Seattle, WA, Fridays 8:00 pm. Contact A. Madrigal, (206) 323-2828. BBS: (206) 323-2828.

MICROenvironment: Microenvironmental Information Consortium For Researchers Overseas. (800) 323-7611. World Headquarters, 712 Avery Rd. W. Winlock, Washington 98596, USA. Micro on MCI mail, ECONET & WELL. TELEX number 6502928733 via WUI.

American Computer Users Temporarily in Europe (A.C.U.T.E). Going overseas or already there? We are a users group dedicated to helping you better adjust and understand how to survive in the overseas environment with your computer system. We show you how to find things you will need at reduced member prices. We also consult firms and developers on how to make software more acceptable to the international market. We do foreign language translation of computer software and provide referral services. Further information available by mail: A.C.U.T.E., Postfach 4, D-8818 Lehrberg, West Germany.

Folklife Terminal Club. Almost Free Software. An international Commodore computer users group, with members in more than twelve countries, has made its software library available to other user groups and individuals. The club has issued new catalogs of software from its archives which contain more than 6,000 public domain programs. The programs are stored on diskettes and are usable in various configurations of PET, CBM, VIC, C-64, PLUS 4 and C-128 computers. The software itself is free. The first diskette that should be ordered is the new "CATALOG DISK" which contains an automatic disk cataloging program, a listing of all the available programs, complete instructions and Associate Membership in the club. There is a copying and mailing fee of $15 per diskette. Please specify which computer and disk drive you have. Contact Folklife Terminal Club, Box 555-DN, Co-op City Station, Bronx, NY 10475.

Miami PC User Group. Meets at 16400 N.W. 32nd Ave, Miami, FL. Second and fourth Wednesdays at 8:00 pm. Contact Jeffrey Feinberg, 2500 E. Hollandale Beach Blvd., Hollandale, FL 33009. (305) 457-7744.

USER GROUPS

AT&T

AT&T PC6300 Users' Group. Meetings at various locations — contact BBS for latest information. Or write Eric Levinson, P.O. Box 7364, Burbank, CA 91510. BBS (818) 954-0530, 300/1200, 8-N-1, 24 hours.

ORCA - Orange Riverside Counties AT&T 6300 UG. Meetings bimonthly, second Saturdays, 11:30 am, at 2144 Michelson Drive, Irvine. Contact Chuck Patten, 1220 Page Circle, Corona, CA 91720, (714) 851-0119, ext. 234.

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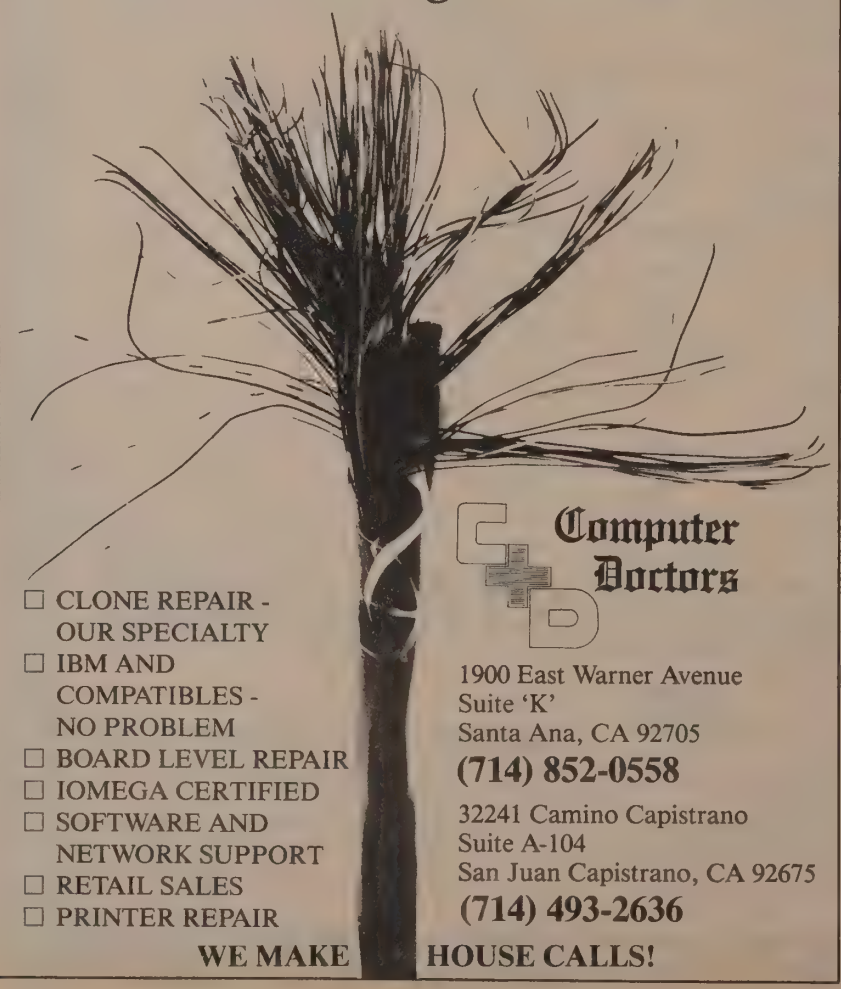

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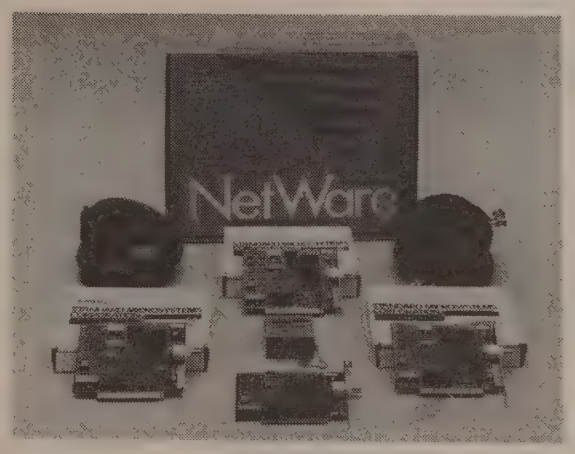

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ALPHAGRAPHICS

Alphagraphics. Contact Stella or Jim Muller, 16425 Bernardo Ctr. Dr., San Diego, Ca. 92128, (619) 451-2250.

AMIGA

Amiga Friends (AF). Contact Russ Kavanagh, (714) 898-2947. Call for more information, we'll see you there!

San Fernando Valley Amiga User Group (SFVAUG). Meets 2nd Thursday of the month, 7-10 pm, at American Legion, 7338 Canby Ave., Reseda. We've got demos, SIGs, newsletter, PD library, disk of the month, ANSWERS. Bring your AMI, we have lots of room now! Contact Randy Likins, (818) 709-0932.

Bits & Pieces Amiga Group of Anaheim. Meets every Tuesday 6:30-10 pm at 1130-A N. Kraemer Blvd., Anaheim, CA 92806. C-64, C-128, Amiga. Public domain software, technical help, guest speakers, much more. Contact John Callaci or Mike Dalton (714) 630-8644/ 630-8711 for information.

Color America. Amiga SIG meets 1-3 pm on the third Saturday of the month at Rosemead Community Center, 3936 N. Muscatel Ave., Rosemead. For information contact Mark Randall, 2227 Canyon Rd., Arcadia, CA 91006, (818) 355-6111.

Amiga Tech Users Group #1. Meets 4th Tuesdays, 7 pm, University Union, Cal Poly Pomona. Contact Mark Randall, (818) 355-6111. Call for more information, we'll see you there!

Amiga Tech Users Group #2. Meets at Rosemead Community Center, 3936 N. Muscatel Ave., near Valley Blvd., Rosemead, 1 pm, 3rd Saturday of the month. Contact Mark Randall, (818) 355-6111. Call for more information, we'll see you there!

Inland Empire Amiga User Group (IEAUG). Meets 7 pm, 3rd Tuesday of the month, California School for the Deaf, 3044 Horace St., Riverside. Contact Paul Corbet (714) 684-6245. Call for more information, we'll see you there!

LA Amiga Users Group (LAAUG). Meets 3rd Wednesday, 7:30 pm, Veterans Memorial Auditorium, Culver and Overland Blvds., Culver City. Call (213) 387-3698 for more information. We'll see you there! BBS: (213) 559-7367.

West Side Amiga Users Group (WAUG). Meets 2nd Wednesday, 7:30 pm, John Adams Junior High School Cafeteria, 16th and Ocean Park Blvd., Santa Monica. Call (213) 451-0713, during the day, for more information. We'll see you there!

Apple/Valley Computer Club. Member interests include Apple, Amiga, IBM and others. Meetings are held on the 2nd Wednesday of each month, 7:30pm, at Valley Presbyterian Hospital, meeting room #3, 15107 Van Owen, Van Nuys, CA. For more info, contact Dr. William H. Trent, 6502 Kester Avenue, #7, Van Nuys, CA 91411, (818) 988-1752.

Ventura Amiga Users Exchange. (VAUX). Amiga users group for Ventura County. Meetings held on the second Monday of each month, 7:30 pm at the E.P. Foster Library, 651 Main Street, Ventura. Call (805) 646-7121.

AMSTRAD

West LA Amstrad. Meets every fourth Tuesday, 8:00 pm at Venice High School. Call (213) 397-7981 for further information.

APPLE

Original Apple Corps. First Apple group ever. SIGs for AppleWorks, Telecommunications, Educators, Macintosh. Meetings in the Santa Monica Mall, second Sunday of the month, 3rd floor Community room, 12 noon. Contact Rich Rollons (213) 378-0707, or Fred Duffy, (213) 396-5515.

The Orange Apple Computer Club meets 9 am-12 pm the first Saturday of each month in the Science Hall at Orange Coast College, Costa Mesa. We have over 700 members, ranging from beginners to certified Apple developers, and a large Apple II public domain software library. There are several very active special interest groups which include Apple III, educators, Apple II, modem and investors. For further info call (714) 770-1865.

Tri City Apple User's Group (Glendale, Burbank, Pasadena). Speakers, product demos, public domain library and friendly experts ready to answer any Apple II question. Meetings are scheduled the third Thursday of the month at Casa Colina Neurological Learning Center, 50 North Hill St., Pasadena at 7:00 pm. Contact Marie Kaden at (818) 846-6682.

North San Diego Apple Club. Meets 1st Tuesday of each month at Meadowbrook Middle School, Meadowbrook Lane, Poway, 7 pm. Contact Bill Walker (619) 579-9649 or Chuck Newby (619) 566-0387, P.O. Box 75, Poway, CA 92064.

SD Alllers. Want to start Apple III user group in San Diego area. Contact James Fair, P.O. Box 1592, Lakeside 92040, (619) 561-3270.

Applejacks of the Inland Empire. Primarily for Apple II users. Meets first Wednesday and third Thursday of the month, 7-9 pm, at Norman Feldheym Central Library, 555 W. 6th St., San Bernardino. Contact Scott Zehm at (714)883-2234 for information, or write Applejacks, P.O. Box 23025, San Bernardino, CA 92406.

Appleholics Anonymous of Ventura County. Software library, club BBS, newsletter, hardware and software demos. 150 members. Meetings sometimes vary—call to verify (805) 482-3501, 484-2611, 659-5326, 985-9781. Meetings 3169 Telegraph Road, Ventura, 9:30 am, usually 2nd Saturday.

Apple/Valley Computer Club. Member interests include Apple, Amiga, IBM and others. Meetings are held on the 2nd Wednesday of each month, 7:30pm, at Valley Presbyterian Hospital, meeting room #3, 15107 Van Owen, Van Nuys, CA. For more info, contact Dr. William H. Trent, 6502 Kester Avenue, #7, Van Nuys, CA 91411, (818) 988-1752.

The Driveway Group Ltd. User Group. Meets at the Bellflower Public Library. Time and date varies. We are forming a new club! Deals mainly with special interest programmers and software. We need members! We need to get started! Phone (213) 867-7724 for information.

APRICOT

Apricot Roundtable Group of Hapless Hackers (ARGHH!) An Apricot user's group is forming in east Long Beach, open to any Apricot, XI, F1, F2, F10 or FP user, or anyone else with MS- or PC-DOS and 3½" disk drives. Phone Jim Bliss at (213) 425-6302. Meetings 7–10 pm, 3rd Wednesdays or at such other time as membership decides, at 7215 Killdee St., Long Beach, CA 90808.

ASHTON-TATE

dBUG-dBASE Users Group. For all levels of dBASE users from beginners to expert. Meets 3rd Monday each month, 7-9 pm, Blue Cross Bldg., 21555 Oxnard, Woodland Hills. For more info contact Bruce Ascough, (818) 789-0723.

dBASE III SIG of UCLA PC Users Group. Meets once per month in Santa Monica—date varies. Contact Tom Rombouts, 1428 N. Curson #6, LA, CA 90046, (213) 874-7471.

dVALLEY dBASE Users Group. Largest and most active dBASE group in So. Calif. Meets 4th Monday of the month in Van Nuys. Large meeting room with plenty of parking. Dedicated to dBASE and its add-ons, all levels. Large cataloged library of programs and routines. Exciting group learning projects, "fix-it-session" at every meeting, plus speakers and demos. For information contact Louie Astorga, President, c/o Real Estate Services, P.O. Box 7140, Canoga Park, CA 91304-7140. (818) 998-3210.

ATARI

Atari Computer Association of Orange County (ACAOC). Join one of the biggest Atari user groups in Southern California. Monthly magazine, large public domain library, and club BBS. Dues $24.00/year, $18.00 for non-attending out-of-town members. Meetings at Golden West College, Room 131, Huntington Beach, 1 pm, fourth Sunday of the month (ST meeting same time and place on second Sunday). P.O. Box 9419, Fountain Valley, CA 92728 or (714) 838-3099 for more information.

West LA Atari Users Group. Come join fellow Atarians! Dues are $25.00/year. Newsletter, P/D library, ATR-Sig, discounts, guest speakers. Please call for directions to meeting room! If you're reading this, you belong with us. Meetings first and third Wednesday of the month, 7:30 pm, Lincoln Park, Santa Monica, Wilshire & Lincoln. Contact Bill Skurski (213) 552-4739.

Los Angeles Atari Computer Enthusiasts (LAACE). Join Los Angeles' largest and oldest Atari Users' Group, now in our 6th year. Enjoy our monthly meetings and newsletter. Participate in our educational SIG (Special Interest Groups) seminars and meetings. Learn how to get the most out of your Atari; access our hundreds of public domain programs; benefit from the help and experience available from our experts. Come as our guest on the 1st Tuesdays of the month (2nd Tues if holiday occurs in 1st week) at 7:00 pm at Granada Hills High School, 10535 Zelzah Ave., Granada Hills, CA. For full benefits, including member access to our 10 meg BBS, dues are $20/yr ($25 for entire family). Write P.O. Box 7752, Van Nuys, CA 91409 (include your phone number) for additional information. BBS: (818) 700-1652.

Santa Clarita Valley Atari Computer Enthusiasts (SCV-ACE) invite you to join us. Meetings are the first Thursday every month from 7 to 9 pm at the Moose Lodge, 18000 W. Sierra Hwy., (1/2 mile north of Soledad Canyon Road), Canyon Country. For info call Bob at (805) 259-6540.

Atari Computer Enthusiasts Network (ACENET). Umbrella group representing many Southern California Atari groups. If you can't locate a user group in your area, contact John Tarpinian at 6055 Cahuenga Blvd., #2, North Hollywood, CA 91606, (818) 760-1831.

Hooked on Atari Computer Keyboard Society (HACKS). Meetings on the first Saturday of the month in the Burbank area. For more information contact John Tarpinian, 6055 Cahuenga Blvd., #2, North Hollywood, CA 91606, (818) 760-1831.

AA-Atari Users Group. Meets at Upland Public Library, 450 N. Euclid Ave. Atari 400, 800, XL/XE group meets second Tuesday, 6-9 pm. Call Juan Valdes, (714) 980-6841 for more info. 520/1040ST group meets fourth Thursday 6-9 pm. Call Jay McCarthy, (714) 829-8722 for more information.

MAST—Mid-Cities Atari ST. Meetings at 9025 E. Artesia Blvd., Bellflower, first Sunday, 7

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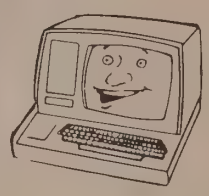

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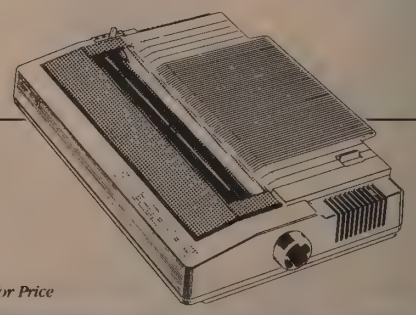

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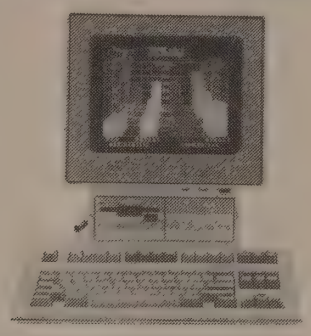

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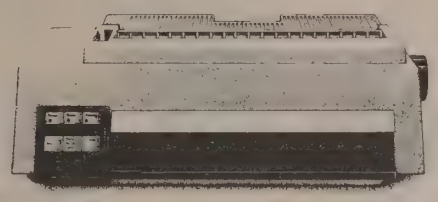

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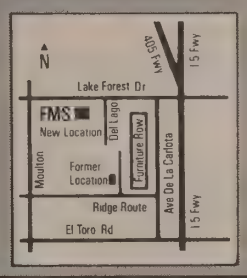

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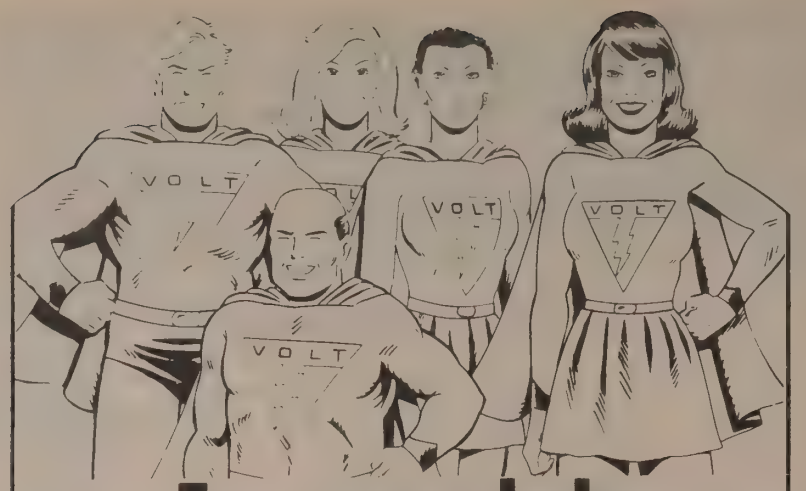

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South Bay Atari Computer Enthusiasts (S.B.A.C.E.). Meets 2nd Tuesdays, 7:30 pm, VFW Hall, 1865 Lomita Blvd., Lomita. Meetings consist of guest speakers from software and hardware suppliers, demos by members, q & a periods, along with current Atari rumors. Newsletter, published 6 times a year, included with $20/yr membership fee. Write S.B.A.C.E., P.O. Box 83668, Los Angeles, CA 90083, for more information, or call Dick Reaser, (213) 645-7063.

AUTOCAD

AutoCAD Los Angeles Users Group. Meetings fourth Thursday of the month (except November and December—Meetings Nov. 20 and Dec. 18), Church of Religious Science, 260 North Pass Ave, Burbank. Contact Tesfaye Abagaz, (818) 843-5770 (work).

COMMODORE

San Diego Commodore Users Group. Meets third Wednesday, 7 pm, 2557 3rd Ave. (Women's Club), San Diego. For all Commodore machines. Contact Jane Campbell, (619) 584-2872 for more information, or write: P.O. Box 86531, San Diego, CA 92138-6531.

San Fernando Valley Commodore Users Group. Meets 4th Wednesday of the month, 7:00 pm, at Mercury Savings, Sherman Way & Sepulveda.

San Luis Obispo Commodore Computer Club 1766 9th St., Los Osos, CA 93402. (805) 528-7475 BBS.

The Commodore Users Group - San Juan Capistrano. This group of C64 users meets the second Saturday of every month from 9:00 am till 12:00 at Great American Federal Savings and Loan, 32232 Camino Capo, San Juan Capistrano. For info call 496-5745.

Orange County Commodore Technical User's Group C-TUG. Orange County's Commodore user group. Club newsletter, two 300/1200 baud BBSs, door prizes, SIGs in Comal, DOS protection, data bases, wpros, and BASIC. Custom software and ROM chips, and just plain good times. Meetings at Mercury Savings and Loan, 4th and Newport, Tustin, fourth Sunday of the month, 10:30 am. Contact Ellis L. Higham, corresponding secretary, P.O. Box 8342, Orange, CA 92664, (714) 554-9222.

Hollywood User Group (HUG) for Commodore computers. Meets 2nd Saturday of the month at Plummer Park, Conference Room, 7377 Santa Monica Blvd., West LA at 12 noon. Contact HUG BBS (213) 874-8256 (24 hrs) or write HUG, P.O. Box 38313, Hollywood, CA 90038.

Southern California Commodore Users Group. Learn more about your Commodore 64. Extensive public domain disk library. Meet at Mid Cities Bank in Gemco shopping center in Bellflower, on the corner of Artesia and Lakewood Blvds. 7 pm, 3rd Tuesday of every month. Contact Dan Klaffke, 11018 E. Rosecrans Ave., Suite 203, Norwalk, CA 90650. (213) 864-2874.

C-128 West UG. User group for owners of the Commodore C128, from beginner to advanced; PD software available. New group still assessing the needs and interests of members. Intend to network with other user groups on C128 software. Meetings 2nd Tuesday, 7:15 pm, McKinley School in Santa Monica, Santa Monica Blvd. and Chelsea. Contact Don Campbell (213) 828-9308.

Inland Empire IBM/C64 User Group. Major subjects are local area networks, small business software, data communications. Send SASE for free newsletter with dates and software library. Contact Winfried Hofacker, P.O. Box 988, Chino Ca 91708-0988.

Commodore Creations Users Group (CCUG). We offer library, newsletter, and other services; upcoming BBS; soon to be member of Commodore World. Meets 2nd or 3rd Sunday of each month 2-4 pm. Membership dues $26 per year. Call or write for info: Brian R. Klotz, 1135 Coronet Ave., Pasadena, CA 91107 (818) 351-8198.

Back-Country Commodore Club. Meets first Thursday 7 pm, Ramona Lutheran Church on 14th St. Check us out for relaxed, informative group discussions. We're here to help those with problems and to promote better uses of Commodore 64s, 128s, and Amigas. Contact Gerry White at (619) 789-3209, 511 14th St. #D-13/ P.O. Box 373, Ramona, CA 92065. Meetings at 617 16th St., Ramona, CA 92065, 7 pm, 1st Thursday each month.

General Dynamics Commodore Computer Club. Meets third Tuesdays, 4:30 pm, Convair Rec. Assn. room C. Commodore 64 and 128 only. Contact Al Wilson, (619) 429-6790 for information.

C.U.B.E. Commodore Users, Buffs, and Enthusiasts meet first and third Mondays of each month, 7:30 pm, East Side Christian Church, 668 Obispo, Long Beach. Contact Ted Lynch, P.O. Box 20288, Long Beach, CA 90801. (213) 435-4815.

Com-Pacs. Meetings and/or copies of public domain software and discussion of problems. New computer C64/128 technologies. Sales and swaps of equipment. Meetings at 2354 Elmgrove St. Los Angeles, CA, Saturdays, 3 pm. Contact Lon Damiani, (213) 222-2277.

PLUG (The Plus/4 Users' Group). Dedicated solely to support of the Commodore Plus/4. No regular meetings, 200 members in US, Canada, Mexico, and Europe. Newsletter, public domain software library. P.O. Box 1001, Monterey, CA 93942.

Pacific Computer Club (Commodore). Meetings 391 S. Madison, Pasadena, 2nd Thursday, 7 pm. Contact Norman Sauppe, (818) 792-9840.

FCUG/SixtyFourum. PD library, newlsetter, meeting 3rd Saturdays, 8:30 am. Contact George Bearden, P.O. Box 16098, Fresno, CA 93755, (209) 291-7053. BBS (209) 431-6288.

Central Coast Commodore Users Group. Meets 3rd Tuesday of each month. Contact Gilbert Vela, 4237 Plumeria Ct., Santa Maria, CA 93455. CCCUG BBS (805) 934-2216, 24 hrs/7 days, 300 baud, Punter BBS protocol for downloads.

Diamond Bar User Group (DBUG). The Diamond Bar User Group is dedicated to the Commodore line of computers, C64, C128, and the Amiga. The club has a large public domain software library base, especially Commodore CP/M. Free raffles, technical discussions, software demonstrations, and the monthly freebie disk can be found at most any meeting. Meetings 2nd and 4th Wednesdays, 7 pm, Diamond Bar Library, 1061 S. Grand Ave., Diamond Bar, CA. Contact David Dietzel, (714) 947-1882 for more information.

South Orange County Commodore Programmers and Users (CPU). Meetings at Great American Savings, 23688 El Toro Road, El Toro, third Saturdays, 9 am. Contact Don Gribble, President, 25401 Champlain Rd., Laguna Hills, CA 92653, (714) 830-2430 or (714) 855-8320.

West Orange County Commodore User Group. Meetings 1st Sundays, 1 pm, Mercury Savings, Buena Park, corner of Valley View and Lincoln. Write for info: P.O. Box 6441, Buena Park, CA 90622; or call Mark Stanford, (714) 772-4182 or Art Collins (714) 821-0195.

Bits & Pieces Amiga Group of Anaheim. Meets every Tuesday 6:30-10 pm at 1130-A N. Kraemer Blvd., Anaheim, CA 92806. C-64, C-128, Amiga. Public domain software, DOS classes, technical help, guest speakers, newsletter and much more. IBM group meets first and third Saturdays of the month at 10:00 am to 2:00 pm. Sponsored by Transnational Electronics. Contact John Callaci or Mike Dalton (714) 630-8644/ 630-8711 for information. BBS: (714) 630-5619.

The Pasadena Commodore Computer Club meets the first and third Wednesday of the month at 7 pm in the Circadian Room of the cafeteria on the campus of Pasadena City College, SE corner of Colorado and Hill. For more information write to PCCC, P.O. Box 1163, Arcadia, CA 91006, or call (818) 447-2212 after 2:30 Pacific time.

Osborne Komputer Owners Klub (OKOK) is a microcomputer user group serving a variety of computers: Osborne, Kaypro, Commodore C128, IBM and clones. As an affiliate of FOG, we serve both MS-DOS and CP/M operating systems. We offer monthly meetings, classes, public domain software library, electronic bulletin board and special purchase opportunities. Meetings second Wednesday of the month, 7:00–10:00 pm. Meetings held at the Altadena Public Library, 600 E. Mariposa, Altadena, CA. Contact Lionel Soracco, (818) 794-3243, or write OKOK, P.O. Box 40429, Pasadena, CA 91104.

Commodore Helpers User Group Of Long Beach.(CHUG). Meets second Saturday of each month, 9:00 am to 12:00 noon at Mercury Savings Bank, 4140 Long Beach Blvd. Dues $12.00 a year. Visitors and families welcome to attend. Support the C64, C128 and Amiga. Q-Link, SIG and more. Newsletter distributed at meeting. Demos and more. We welcome people who need help with their Commodores. Free disk for members at each meeting. Soon to come: area BBS for users and professional software demos. If you have any questions call Rodney Hayes, president, at (213) 863-8420, from 6:00 pm to 10:00 pm, M-F.

Success. Commodore group meets at 18th and Oak, Paso Robles, CA on the second Tuesday of the month at 7:00 pm. Contact Wayne Weichel (805) 238-6294 for information.

East County C64 Owners (ECCO). Meets at Coleman college in San Diego at 7:00 pm on the first and third Fridays of the month. Contact Gary Bell at (619) 561-4245.

GEOS Users. Dedicated solely to helping Commodore owners learn more about GEOS for the C64 and C128. All information and disks exchanged by mail. Membership is $20 per year. Our first GEOS applications diskette and monthly newsletter is included with membership. Please specify which computer and disk drive you have. Contact: GEOS Users, 21634-A Belshire Ave., Lakewood, CA 90716.

CORDATA

Cordata Users Group. Meets 2nd Fridays, 7 pm. 20630 Lassen St., Chatsworth. Contact Alicia Fahey, (818) 709-6202 for information.

CP/M

CP/M SIG. Meets first Sunday of the month, 10:30 am, at Chapman College. Contact Barry Cole (213) 390-3851. BBS: (714) 998-8080.

DEC

DECUS Inland Empire PC-LUG Digital Equipment Computer Users Society. Free to all DEC users; Decmates, Rainbows, Professionals; P/D software; guest speakers; software /applications assistance available; FIDO bulletin board. Meets Cal Poly-Pomona campus, Library Bldg 15, Room 12, 7:30 pm 3rd Tuesday of each month. Contact Jan Snyder, 380 Verona St., Upland, CA 91786, (714) 620-7511 ext. 4376.

DECUS Southern California PC-LUG. Digital Equipment Computer Users Society. Free to all DEC users; Decmates, Rainbows, Professionals; P/D software; guest speakers; software/applications assistance available; FIDO bulletin board. Meets 10:30 am, 1st Saturday of the month, Press Telegram

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DECUS Rainbow Pacific PC-LUG Digital Equipment Computer Users Society. Free to all DEC users; Decmates, Rainbows, Professionals; P/D software; guest speakers; software /applications assistance available; FIDO bulletin board. Meetings at Digital Equipment Corporation, 6101 W. Centinela Ave., Culver City, CA 90230, 7 pm, 2nd Wednesday of each month. Contact Don Braums, 3312 Summertime Lane, Culver City, CA 90230, (213) 202-1784.

EASYBUSINESS

Easybusiness Systems Users Group. CPAs, Consultants, and other business people interested in Computer Associates Easybusiness Systems' Accounting Software. For information, contact Gary Robinson (213) 398-6544.

EPSON

Cursor Club Epson 402 W. Arrow Highway, Suite 6, San Dimas, CA 91773. (714) 559-8361, Bulletin Board: (714) 592-6316.

San Fernando Valley Epson User Group. Meetings at Fallbrook Square Community Room "The Meeting Place" off the Food Court in the new Fallbrook Mall, 6633 Fallbrook Ave., Canoga Park, between Victory and Vanowen. Meets 3rd Wednesday of each month at 7 pm. Contact Pat Denslow, (818) 881-4029 for information.

Epson Users Group of Orange County. 6075 Jeffrey Mark St., Cypress, CA 90630, (213) 414-4817.

Epson Users of San Diego. P.O. Box 87448, San Diego, CA 92138, (619) 560-7604.

High Desert Epson Users Group. 933 Cottonwood Drive, Barstow, CA 92311, (619) 256-3541.

PSC/QX. 2934 Wilshire Blvd., Santa Monica, CA 90403, (213) 453-4535, Bulletin Board: (213) 474-4952.

South Bay Epson Users Group. 1115 Cerise Avenue, Torrance, CA 90503, (213) 328-9916, Bulletin Board: (213) 618-1940.

Epson Computer Club of America. Monthly meeting 2nd Saturday of the month at 10 am, Mercury Savings and Loan, Irvine Blvd. one block east of Newport Ave. Messages Epson West Bulletin Board (714) 630-7104 User area B:15. Monthly newsletter "The Help Key." Contact Roy Boorman, 4021 Winterhaven St., Yorba Linda CA 92686, (714) 524-9483.

Epson User's Group of Orange County. Meets on 3rd Saturday of the month from 10 am to 12 noon at 2111 Main Street, Huntington Beach, CA 92648. Contact Richard A. Petersen. 7282 Mast Dr., Huntington Beach, CA 92646. (714) 536-6979.

FORTH

FORTH Interest Group, Los Angeles Chapter. Meets 4th Saturday, 10 am, Hawthorne Public Library, 12700 S. Grevillea, Hawthorne. Contact Phil Wasson (213) 649-1428.

FORTH Interest Group, Orange County Chapter. Meets 1st and 4th Wednesdays, 7 pm. Call Noshir Jesung for info. (714) 842-3032.

FORTH Interest Group, San Diego Chapter. Meets weekly, Thurs., 12 noon, contact Guy Kelly (619) 268-3100 ext. 4784.

HEATH

Los Angeles HUG (Heath Users Group). A support group for users of Heath/Zenith computers. Monthly speakers, software library, information exchange, newsletter. Meetings open to visitors. Meetings at 2309 S. Flower St., LA 90007, first Thursday of each month at 7 pm. Call Tom Davis for information at (213) 462-2642.

LUV-A-HUG Heath /Zenith User's Group. Meets 2nd Thursday of each month, 7pm, at Heath /Zenith Computers and Electronics, 22504 Ventura Blvd. Woodland Hills, CA 91364. A users group dedicated mainly to the Heath/Zenith line of computers, but anyone interested in computing is welcome. Dues are $12/yr, which includes group newsletter and copying of public-domain software from extensive library of PC-, Z-100, and CP/M compatible software. For more info contact John Rotondi, between 10:00 am and 6:00 pm at (213) 874-9344. BBS (818) 772-0384.

HEWLETT-PACKARD

LA-SCRUG. Hewlett - Packard Series 100 business computer user group. Demonstrations and seminars on HP software and equipment. Meetings at 5161 Lankershim Blvd., North Hollywood, 7-9 pm, 2nd or 3rd Thursday of the month. Contact Dave Mark, P.O. Box 60975, Pasadena, CA 91106, (818) 794-4969.

Hands-On Computer User Society (HOCUS). Meets the 1st and 3rd Thursday of the month, 6:30 pm, at 473 E. Colorado Blvd. Pasadena, 91101. Informal, hands-on problem-solving using various HP personal computers. Contact Dale Thorn c/o Logic Tree Computer Center, 463 E. Colorado Blvd., Pasadena 91101. (818) 440-9279.

PPC Personal Programming Center. Current interests include HP-41c, HP-71b and HP 28c. Meeting times and locations vary and are announced on the bulletin board. BBS number (213) 978-0024. For more information contact Emmett Ingram at (213) 498-2472.

IBM

The Greater South Bay IBM PC Users Association. Any L.A. area PC or compatible owners are welcome to attend these meetings at the TRW cafeteria on Compton Blvd. Meeting time is 7:00 pm on the

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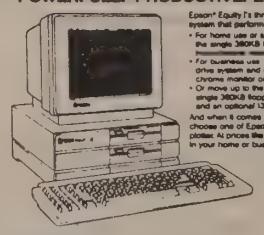

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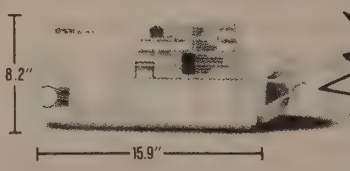

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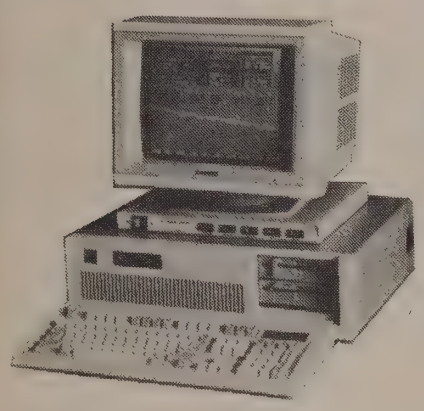

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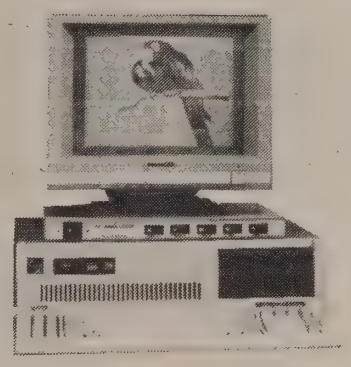

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Technical Users Group (TUG-NET). For CP/M & MS-DOS PC users. Meets on the first Thursday of each month at 7:00 pm. Valley Plaza Park, Community Room, 12240 Archwood St., North Hollywood, CA. Contact Mike Faith - (818) 994-6567. DOS SIG meets 3rd Mondays, 7 pm, Sears S&L, Van Nuys. Call (818) 701-0512 for information. BBS (818) 882-6045.

UCLA PC Users Group. IBM PC or compatibles owners welcome to join us on the 2nd Tuesday of the month, 7 pm. Public domain library , SIGs, BBS, seminars and newsletters. NPI Auditorium, UCLA, Westwood Plaza, Level C. For more information call (213) 473-6668.

Pasadena IBM User's Group. Meets 3rd Wednesday of each month at Cal Tech, Bridge Building, Room 201. For more info send SASE to Steve Bass, 711 E. Walnut Street #306, Pasadena, CA 91101, (818) 795-2300.

Inland Empire IBM/C64 User Group. Major subjects are local area networks, small business software, data communications. Send SASE for free newsletter with dates and software library. Contact Winfried Hofacker, P.O. Box 988, Chino Ca 91708-0988.

The Foothill Computer Club. An IBM-PC users group. CCCUG — Crescenta-Canada-Compatible Users Group. P.O. Box 1265, La Canada, CA 91011, (818) 790-6672. Meetings 1st Wednesday of the month at 6:30 pm at the Glendale Federal Bank, 2350 Honolulu, Montrose, CA. For newsletter send SASE to above address.

NOCCC Lotus & Business SIG. Subgroup of North Orange County Computer Club. Meets first Sundays at Chapman College in Orange, CA, 11:15 am. Lotus 1-2-3 and business application demos, speakers. Call to verify dates, address: Vance Joachim, (714) 998-8080. P.O. Box 3616, Orange, CA 92665.

The Riverside IBM Computer Club. Meetings at Computerland Riverside, Monday 7 pm. We specialize in software demonstrations, sharing of public domain programs, and mutual problem solving activities. Contact Jimmie E. Heidecke, (714) 685-5407 for info.

Orange Coast IBM PC User Group. A not-for-profit organization open to anyone with or considering the purchase of an IBM PC or compatible computer.

Monthly meetings, usually on the last Saturday of the month, consist of one or two guest speakers, a short business session and a period for random access. OCIPUG has public domain and user supported software, a monthly newsletter and a bulletin board. Membership is $20 per year. Meetings at Orange Coast College, Science Hall, Costa Mesa, last Saturday of the month, 9 am–12 noon. Contact Tom Sutro, P.O. Box 6100-211, Costa Mesa, CA 92628, (714) 850-0474.

Valley Computer Club. IBM PC Users Group meets first Wednesday each month. The group is part of Southern California's original computer club. Its purpose is to distribute public domain software and exchange info on the PC. Meetings at 2006 W. Magnolia Blvd., Burbank, 7 pm. Contact Aaron Epstein (818) 769-1837.

Kern Independent PC User Group (KIPUG). Meets the 2nd Thursday of each month beginning at 7 pm at the County Superintendent of Schools Boardroom, 5801 Sundale Ave., Bakersfield. Contact Jim Harrer, P.O. Box 2780, Bakersfield, CA 93303, (805) 395-0223.

Bits & Pieces IBM of Orange County. Meets at 1130-A N. Kraemer Blvd., Anaheim, every Saturday at 10 am. Call John, (714) 630-8644 for more information.

Ventura Personal Computer User's Group. All MS-DOS and PC-DOS machines. Meetings 3rd Saturday 9 am-12 noon, Foster Library, 651 E. Main, Ventura. contact Mike Regan, President, 301 Dana Point, Ventura, CA 93004, (805) 647-8273.

Thousand Oaks Personal Computer Club (TOPCC). Meets fourth Thursday, except November and December (3rd Thursday), at CAL Lutheran Univ., 60 W. Olson Road, Thousand Oaks. 6:30 pm beginners, 7:30 regulars. Group is five years old and has approximately 150 members. Contact Bob Tracy, (805) 482-7092 for more information. BBS: (805) 499-8378.

Southwest PC Users Group. All computer users are welcome. Meetings 3rd Saturday of each month; call for meeting place. Christine Tripp, (213) 935-4105.

Tulare County PC. Meetings at Genesis Computers, 3rd Thursday each month. Call Roger Jenan, (209) 733-8204 for information.

Claremont Computer Club. This club is for any interested IBM PC or compatible users. Meetings start at 7:30 pm on the 3rd Monday of the month. Call (714) 626-2268 for meeting location and information.

Apple/Valley Computer Club. Member interests include Apple, Amiga, IBM and others. Meetings are held on the 2nd Wednesday of each month, 7:30pm, at Valley Presbyterian Hospital, meeting room #3, 15107 Van Owen, Van Nuys, CA. For more info, contact Dr. William H. Trent, 6502 Kester Avenue, #7, Van Nuys, CA 91411, (818) 988-1752.

Osborne Komputer Owners Klub (OKOK) is a microcomputer user group serving a variety of computers: Osborne, Kaypro, Commodore C128, IBM and clones. As an affiliate of FOG we serve both MS-DOS and CP/M operating systems. We offer monthly meetings, classes, public domain software library, electronic bulletin board and special purchase opportunities. Meetings second Wed-

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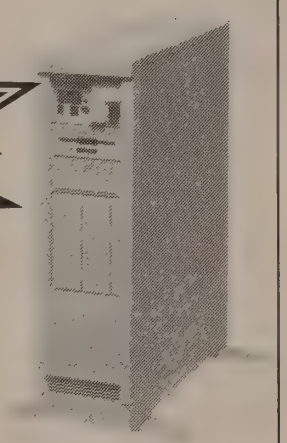

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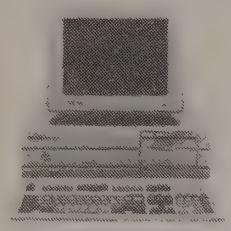

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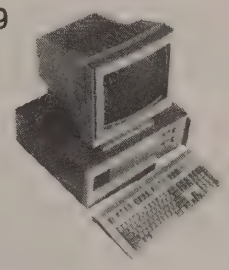

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nesday of the month, 7:00–10:00 pm. Meetings held at the Altadena Public Library, 600 E. Mariposa, Altadena, CA. Contact Lionel Soracco, (818) 794-3243, or write OKOK, P.O. Box 40429, Pasadena, CA 91104.

Pasadena IBM PC Users Group. Meets third Wednesday of each month at Cal Tech Bridge Bldg., Room 201. Contact Steve Bass, 711 E. Walnut Street, Pasadena, CA 91101. (818) 795-2300. Send SASE.

Long Beach IBM Users Group. Meets second and fourth Wednesday of each month at 4601 E. 2nd Street, Belmont Shores. Contact Noel Roberts, president, 153 Argonne Ave., Long Beach, CA 90803. (213) 438-6515.

KAYPRO

Lakewood/Long Beach KUG is a group of Kaypro computer owners dedicated to helping each other solve problems and share information and public domain software. The meeting is open to all. Meetings at Midcities Bank, 9025 Artesia, Bellflower, CA, 2nd Wednesday of each month; 7 p.m. Contact Melvin Pasley, 4566 Shadeway Rd., Lakewood, CA 90713, (213) 421-3094.

Kaypro UG, 3134 N. Palm Shields, Fresno, CA 93704.

K-West, Orange County Kaypro users group. Meetings 2nd Monday of the month, Glendale Federal Savings, 100 Newport Center Drive, Newport Beach.

Club 16. Meets once a month in Costa Mesa at 2790 Harbor Blvd., (CBS Store) to share knowledge of the 16 bit world. It is a small group so that everyone can get to know each other and share. Large public domain library. Contact Peggy Lloyd, (714) 645-9868 for information.

LA Kaypro Users' Group. Primarily CP/M users, all brands welcome. Meets 3rd Tuesday, 6:30-9:30, Beverly Hills High School, 241 Moreno Ave., 3rd floor cafeteria, near Olympic and Spalding. Contact Allyn Franklin or Barry Cole, (213) 278-3748 or (213) 390-3851 after 11 am please.

Kayos Kaypro Users Group. Kayos Kaypro User Group invites Kaypro and CP/M users to meetings at TRW in Redondo Beach, 6:30 pm, third Monday of the month. (213) 379-8339 for details.

TUG-NET Kaypro and Osborne SIG meets 4th Thursdays, 7 pm, Central Savings, 4464 Van Nuys Blvd., Sherman Oaks. Call (818) 882-1693 for information.

Osborne Komputer Owners Klub (OKOK) is a microcomputer user group serving a variety of computers: Osborne, Kaypro, Commodore C128, IBM and clones. As an affiliate of FOG, we serve both MS-DOS and CP/M operating systems. We offer monthly meetings, classes, public domain software library, electronic bulletin board and special purchase opportunities. Meetings second Wednesday of the month, 7:00–10:00 pm. Meetings held at the Altadena Public Library, 600 E. Mariposa, Altadena, CA. Contact Lionel Soracco, (818) 794-3243, or write OKOK, P.O. Box 40429, Pasadena, CA 91104.

Kaypro SIG. Meets on the first Sunday of the month, 1:30 pm, at Chapman College. Contact Tom Gramafa (714) 995-9227. BBS: (714) 998-8080.

LEADING EDGE

OCTIPUG-SIG. Forming Leading Edge user's group. Will organize to teach DOS, Framework, d-BASE III, utilities and public domain software. Meeting times and address to be announced. Contact Michael Banyacki, 24992 Spadra Lane, Mission Viejo, CA. (714) 770-3172. Leave name and phone number.

LOTUS

Los Angeles Lotus Users Group. Demonstrations, problem-solving, third-party applications, etc. For Lotus 1-2-3 and Symphony. Informal and fun. 7–9 pm, Burbank church of Religious Science, 3rd Thursday each month. Take 134E to Pass, N. 1 block. Call Don Roark, President, (818) 905-1441 for information.

MACINTOSH

Los Angeles Macintosh Group (LAMG) Be a part of the best Mac group in So. Calif. Many SIG and local groups to choose from including desktop publishing, OMNI, business, education and more. Monthly main meeting at McKinley Elementary School, Santa Monica Blvd. at Cloverfield, Santa Monica. Membership $25 annually includes 12 issues of MacDigest newsletter, access to public domain library, discounts at local stores. Call Eric Anderson, (213) 278-LAMG for information.

Ventura County Macintosh Club Mac and Lisa users invited. Membership $21/yr.; newsletter, software library, discussions and ideas. P.O. Box 7754, Oxnard, CA 93031, (805) 983-1610, (805) 499-2824.

Mac Valley Users Group. For $20/yr. membership fee you too can enjoy meetings chock full of software/hardware presentations, public domain software library, Mac articles index, software and accessory raffles, and help hotline. Broad range of users, very friendly to novices. Meetings at Burbank High School Cafeteria, Burbank Blvd. at 3rd St., Burbank, CA, third Tuesday of the month, 7:30 p.m. Contact Ruth Stever, P.O. Box 4297, Burbank, Ca 91503, (818) 848-1277.

MAC-HACers. Macintosh computer club for Hughes Aircraft employees only. Meetings 3rd Wed. each month, H.E.S.E.A. Club House, 1216 Imperial, El Segundo, CA 90745, across from LAX, 5 pm. Contact Bud Grove, (213) 606-2212, 5am-3pm, (213) 549-9664.

Orange Apple Macintosh Group. The Macintosh Meeting of the Orange Apple Computer

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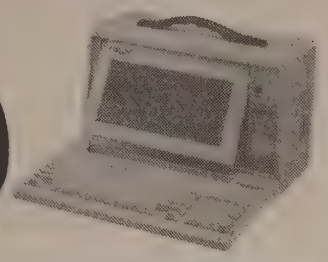

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Club meets 1 pm-4 pm the 1st Saturday of each month in the Science Hall at Orange Coast College, Costa Mesa. We have the best of the public domain software for the Mac, and several fun special interest groups which include Fast Start, Mac Modem, and Deciphering Mac Public Domain. For further info, call (714) 770-1865.

Mac Orange. Monthly newsletter, special intrest groups, monthly meetings, $20 annual dues. Meetings 3rd Wednesday of each month, 7:30 pm, Johnson Center, Santa Ana College, Bristol at 17th. Novices SIG meets at 7:00. For info write Box 1830, Santa Ana, CA 92701, or call (714) 542-9753.

MacBuddhist. Learn about computer assisted dharma study and application to daily living. Network of on-line Bodhisattvas sharing material crossing sectarian lines. Monthly meetings, last Saturday of the month. Write: 2605 N. Beachwood Drive, Los Angeles, CA 90060, (213) 464-3599.

Corporate User Groups SIG of Los Angeles Macintosh User Group establishes communication between leaders of Macintosh User Groups of companies in the greater Los Angeles area. The main purpose of the group is to share information on Macintosh use in corporations. It also consults company recreation clubs in starting and supporting company Macintosh groups. Contact Charles Shipp, (213) 970-6300w, (213) 833-9186h, for more information.

San Gabriel Valley Mac Users Group. Meets once a month to disseminate information about the Macintosh. Meetings are held on the first Thursday of every month at the City of Hope in Duarte, 7:30 pm in cafeteria complex Room B. The SGVMUG has special interest groups such as Power Users' SIG and a Novice SIG. Public domain library, monthly newsletter. Membership is $20 per year. Contact Frank Chavez on the 24 hour information line (213) MUG-ICON, or write SGVMUG, P.O. Box 792, Sierra Madre, CA 91024.

Macintosh Computer Society. General meeting on the 1st Thursday of each month at 23 Civic Center Drive, Northwest corner of Santa Ana Blvd. and Rose Street. Meeting time 7:30 pm. Membership $20.00 per year. FREE help / education meetings on the 2nd and 3rd Tuesday of each month at Progressive Savings 19900 Beach Blvd., Huntington Beach, 7:15 pm. Our huge library contains the best of Public Domain software for all the Mac family. For further info, call Robert at (714) 840-1238 or mail to 17661 Falkirk Lane, Huntington Beach, CA 92649.

Rockwell International Macintosh Users' Group (RIMUG). Meets 1st Tuesday of each month 12 noon at 2770 E. Carson St., Lakewood, CA. Al Nercessian, president. 8511 Beverly Pk. Pl., Pico Rivera, CA 90660. (213) 420-4819.

South Bay Apple Mac User Group. Meets last Wednesday of the month, 7:30 pm. Contact Gary Fortune at (213) 316-7738 for information. BBS: 534-4311.

MORROW

West LA Morrow User's Group /The Morrow Minority. 40 dedicated members, with special emphasis in WP; PD library. No dues, but $1 at door to pay for refreshments. Some classes and informal newsletter. If new, call to reserve space: Dr. Bernice Ennis, (213) 276-9096, 1833 Franklin Canyon Dr., Beverly Hills, CA. Meetings 2nd Wednesday of the month.

LA Morrow User Group. Meets 3rd Thursday each month, North Hollywood Recreation Center, 11430 Chandler Blvd., North Hollywood. Contact Jack Byers, (818) 347-7283 for information.

NEC

Orange County NEC Users Group (OCNUG). Dedicated to NEC-APC computers, CP/M-86 & MS-DOS. Always room for any experience level. Meets 3 pm, third Saturday of the month. 6642 Lenore, Garden Grove. CA 92645. Call John Bingel at (714) 897-7656 for more info.

The Los Angeles Area NEC APC Users Group meets on the first Saturday of each month at 3 pm at the I/O Interface Computer Mart, 6241 West 89th St., Los Angeles, CA 90045. Telephone (213) 410-9824. There is no meeting in January, and occasionally a meeting may be cancelled or postponed, so it is best to call before coming.

NETWARE

Orange County Network Users Group (OCNET). All users, consultants and business people interested in learning and sharing information about Netware are invited to join. We're now meeting on the second Monday of each month at First American Title, Santa Ana, CA. For more information call Mark at (714) 955-0616.

OLIVETTI

Olivetti PC User Group forming. Send SASE to Stan Cory, 29500 Heathercliff Rd. #86, Malibu, CA 90265, or call (213) 457-3879.

OMNIS 3

Omnis 3 User Group. Meets every third Wednesday of the month at Grant St. Elementary School in the auditorium. Address is 2368 Pearl St., Santa Monica. Time is 7:30 pm. The use of Omnis3 and Omnis 3+ in data processing information management systems is covered, from setup to advanced features. Expert and novice welcome. Call Zachary Sempers at (818) 701-1355 for information.

OPEN SYSTEMS ACCOUNTING

Open Systems Accounting, SoCal User's Group. OSASCUS would like to extend an invitation to users, consultants and business people interested in sharing information regarding OSAS. We'll discuss OSAS, single user and networked systems and more! We meet on the fourth Wednesday of the month at Wyle Laboratories, Irvine, CA. For more information call Mark at (714) 955-1724.

OSBORNE

TUG-NET Kaypro and Osborne SIG meets 4th Thursdays, 7 pm, Central Savings, 4464 Van Nuys Blvd., Sherman Oaks. BBS (818) 882-6045, 8-N-1, 1200 baud, 24 hours.

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Osborne National Users Group meets 2nd Fri./mo. at 7:30 pm at Wizard of Oz, 20630 Lassen St., Chatsworth, CA 91311. Contact Art Schlefstein, (818) 709-6969.

PARADOX

Southern California Paradox Users Group. Anyone with an interest in the relational database Paradox please send an SASE to Brian Smith, 350 Palos Verdes Blvd., Redondo Beach, CA 90277. Meetings are being held in LA and Orange County.

RADIO SHACK/TRS

South Bay Color Computer Club TRS-80, TDP-100, Dragon. Meets third Friday of the month at Mercury Savings, 22939 Hawthorne Blvd., Torrance. Info: Andrew Corlett, 1435 W. 172nd St., Gardena, CA 90247. (213) 538-8394.

OCTUG-Orange County TRS-80 Users Group. Meets the 3rd Sunday of each month in the community room at "The City Shopping Center" in Orange. The room is near the green entrance of the mall (N.E. corner). MS-DOS SIG (Special Interest Group) begins at 11:30 am. General meeting begins at 1:30 pm. Devoted to the Tandy line of computers and compatibles. Come on down and see what it's like. For more info, contact Franco Collino, (714) 750-0887.

San Gabriel Valley TRS-80 Users Group. Supporting users of TRS-80 and Tandy computers. Meets 2nd Friday of each month at Arcadia Park Senior Citizens Center at 7:30 p.m. Monthly newsletter, various SIGs, lotsa fun & info. Contact Dan Dresselhaus. (818) 914-5831 days.

VTUG (Valley TRS-80 User Group). Devoted to users of TRS-80 Model I, II, 4, 4P, LNN or MAX-80. Speakers, presentations, raffle drawing, refreshments. No admission or membership fee, new members welcome. Meetings at Glendale Federal Savings, 7129 Topanga Canyon Blvd., Canoga Park, 3rd Thurs., 7:30 pm. Contact Fred Blechman, (818) 346-7024.

VTHG Valley TRS80 Users Group. Meets first Friday of the month at 7:30 pm, Valley Plaza Recreation Center, 12240 Archwood St., North Hollywood, CA. One block south of Vanowen St. Four blocks west of Laurel Canyon Blvd. RAM SECTION, bring all the questions, ideas and information that you have and share them. ALSO, don't forget to bring your blank diskette to exchange for the new club disk from Eric. For more information call (818) 982-0467 or write P.O. Box 9747 North Hollywood, CA 91609.

COCO 1-2-3, Color Computer, Models 1,2,3. Meets second Friday of the month at 7:30 pm, Valley Plaza Recreation Center, 12240 Archwood St., North Hollywood, CA. One block south of Vanowen St. Four block west of Laurel Canyon Blvde. RAM SECTION, bring all the questions, ideas and information that you have and share them. ALSO, don't forget to bring your blank diskette to exchange for the new club disk from Paul For more information call Harry Tischler (818) 997-6000 or write 7560 Woodman Pl. No. E8 Van Nuys, CA 91405.

Tandy 1000 (The MUG) Meets fourth Wednesdays, 7 pm, 9027 E. Artesia, Bellflower, CA. Contact Dick Sherwood, 4014 Centralia St., Lakewood, 90712, (213) 421-4014. The MUG RBBS (213) 425-0022, members only.

Color America. Radio Shack color Computer SIG meets 2:30-5 pm on the third Saturday of the month at Rosemead Community Center, 3936 N. Muscatel Ave., Rosemead. Contact Mark Randall, 2227 Canyon Rd., Arcadia, CA 91006, (818) 355-6111.

The Los Angeles-Wilshire Color Computer Users' Group, a TRS-80 Color Computer Users' Group, meets the 2nd Saturday of each month, 12:30 pm-5:30 pm in the Felipe de Neve library's community room, 2820 W. 6th, Los Angeles. Call Milton, (213) 558-4909.

United Computer Federation-San Fernando Valley Chapter. Meets the fourth Tuesday of each month at the Tarzana Radio Shack, 18545 Ventura Blvd., 1/2 block west of Reseda Blvd. Meeting starts at 7:30 pm. Meetings are open to the public and all are welcome. The UCF is a network of Tandy Color Computer user groups. For more information phone Pete Ellison, chapter president, at (818) 840-8902.

United Computer Federation-Los Angeles Chapter. Meets the fourth Thursday of each month at the Church of Christ recreational building, corner of Clark and Park streets, just off the 91 freeway in Bellflower. Meeting starts at 7:30 pm. Meetings are open to the public and all are welcome. The UCF is a network of Tandy Color Computer user groups.

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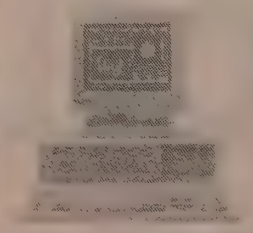

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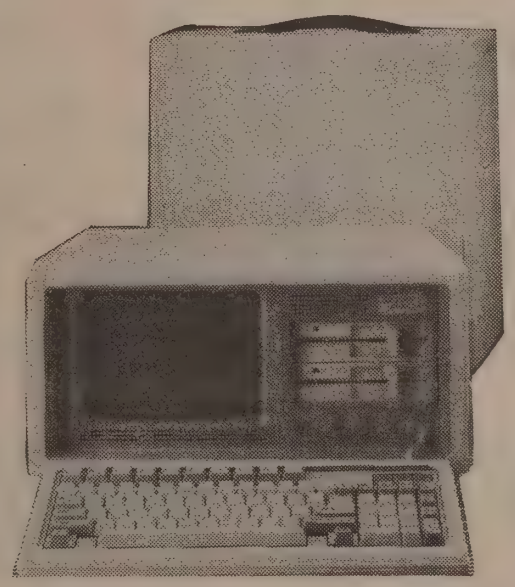

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United Computer Federation-Orange County Chapter. Meets the second Sunday of each month at the Mercury Savings building on Edinger Ave., 1 block north of Beach Blvd. in Westminster. Meeting starts at 1:30 pm. Meetings are open to the public and all are welcome. The UCF is a network of Tandy Color Computer user groups. For more information phone Allen Nedrow, chapter president, at (213) 692-3073.

SBT

The Orange County SBT Users Group is being formed and is seeking members who are interested in an atmosphere that promotes the better understanding and more efficient use of the SBT Accounting Software. Contact Jay Rubin, P.O. Box 5145, Newport Beach, CA 92662, (714) 720-8171.

SANYO

Sanyo-MS/DOS Table Top Computers, 14717 South Prairie Ave., Lawndale, CA 90260. (213) 679-1151.

Zenith-Sanyo Users Group meets 10 am every first and third Sunday at 401 S. La Brea Ave., Inglewood, CA 90301. Call Alan Gillen, (213) 674-0318 for information.

Sanyo Users Group of LA (SUGLA). Devoted to users of Sanyo MBC 550/555 micro business computer. Guests welcome. Dues $15/yr. Speakers, presentations, public domain software library, information, new hardware and software reviews. Meetings 2nd Wednesdays, 7 pm, CAL State University, LA, Student Union (Bldg. #5), 4th floor in South Pasadena Room. Contact Fred Blechman, (818) 346-7024.

TEXAS INSTRUMENTS

LA 99er Computer Group. TI 99/4A support, classes and SIGs, large software library, monthly newsletter. Demonstrations, bulk purchase discounts on hardware, software and books. A good group to join. Meetings at Torrance Public Library, 3301 Torrance Blvd. (corner of Madrone), Torrance, CA. 4th Wednesday of the month, 7 pm. Contact Terrie Masters, 148 S. Maple Drive, Beverly Hills, CA 90212, (213) 271-6930.

The TI-99 Club. Yes, there still are a lot of 99's and 99/4a's around. If you own one, then get in touch with these people. They have good info for TI owners. Meetings take place at the Westminster Community Center on the third Thursday of every month at 7:00 pm. For info, call (714) 842-0859.

TI-West (Los Angeles West Side Area). Meets at DeCoursey Engineering Laboratory, 11828 W. Jefferson Blvd., Culver City, on the 3rd Monday of each month. For information, contact Lew Howard at (213)397-9668.

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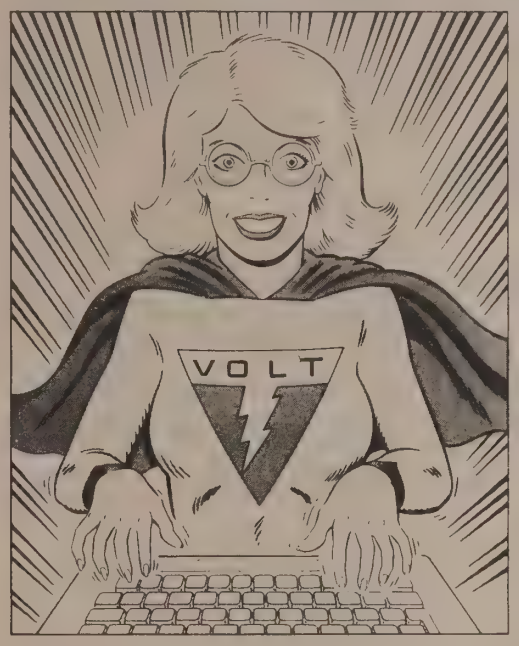

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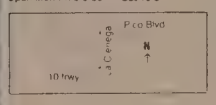

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San Gabriel Valley TI 99/4 Users Group meets 1st Wed./ mo. at 6:30 pm in the Covina Parkway, West Covina, CA. Contact Tom Padilla, (213) 330-8240.

TI Riverside UG. Supporting the TI 99/4A. Meetings at Collett School, 3rd Thursday, 7 p.m. Contact Ed Butcher, 3523 McKinley St., Riverside, (714) 686-0336.

San Fernando Valley TI 99/4A User Group. Library, Workshops, Newsletter, How To? For further information call Jim Edwards, (818) 248-9558, 5-10 pm. Meetings 2nd Wednesday of the month, 7:30 pm, Doctor's Conference Room, Sherman Oaks Community Hospital, 4929 Van Nuys Blvd.

Antelope Valley TI UG. TI User Group. Meetings at Palmdale Culture Center, 3rd Wed., 7 pm. Contact Len Rouw, 38540 26th St. East, (805) 947-6270.

El Toro 99 Home Computer Users Group. The ET-99 Home Computer User Group meets to demonstrate programs, equipment, and discuss techniques. Contact Ken Baldwin, 23065 Sonoita, Mission Viejo, CA 92641, (714) 855-0480. Meetings at Mercury Savings and Loan, 1-5 and Lake Forest, El Toro, 2nd Saturday of each month 9 am - 12 noon.

Tri-Valley 99'ers. We have what you're looking for! Interesting guest speakers, software/hardware demonstrations, large group library, monthly newsletters. We serve the entire Conejo Valley and beyond! Contact Steve Mehr (805) 496-8725 or Chuck Salvatore, (805) 527-4129 for more information.

BUG (Brea 99er's Users Group). Meets the first Monday of the month at 7:30 pm at the Western Federal Savings meeting room, #10 La Habra Fashion Square, corner Beach and Imperial, in La Habra. For further information call Bob August at (714) 871-3405.

San Fernando Valley Texas Instruments Professional Computer User Group (SFV TI-PRO USER GROUP). Meets at 9017 Reseda Blvd. Suite #212, Northridge, on the 3rd Sunday of each month at 10:00 am. We serve the entire San Fernando and Santa Clara Valleys. Group meets to discuss: how-to techniques, programs, equipment and software. All are welcome —bring a friend. TI-Pro/AutoCAD Users are also welcome. For more info, contact Marcus Swed at (818) 993-3151 during the day and at (818) 366-0886 evenings.

The Pomona Valley 99ers Computer Users Group. Meets locally every month on the second Monday of the month. Anyone interested in home computing is welcome to come to our meetings at 7:00 pm. We meet at the Cortez Elementary School at 12750 Carissa Ave., Chino, which is south of the Pomona Freeway and west of Mountain Ave. There are demos of hardware and software. Mostly for the Texas Instruments 99/4A computer. Lots of discussion. We try to educate and stimulate interest in computer literacy and programming. If you become a member of this non-profit group you'll get a monthly newsletter and be able to get copies of the programs in the large club library of public domain software.

TIMEX-SINCLAIR

Timex-Sinclair. South Bay and West Side groups. Call John W. Petersen at (213) 545-9581 anytime or Dr. George Kuby (213) 201-2014 after 3 pm for more information.

TOMY

Tomy Tutor computer user group. Contact Eugene C. Dinovo, P.O. Box 37, Sepulveda, CA 91343.

VICTOR

West Los Angeles Victor Users Group (WLA-VUG). Victor 9000 users - you are not alone! Meet other users. Free V9000 software & purchasing discounts for members. Victor-specific bulletin board (818) 989-2216. Meetings at 8651 Olin St., LA 90034, 7 pm, 3rd Thursday, every month except December. Contact Roger Goodman, (213) 558-8363.

Orange County Victor 9000 User Group. Meets fourth Wednesday of the month at Mayward Siler & Assoc., 12062 Valley View, Suite 210, Garden Grove, CA 92645. Contact Don Henderson, 1201 Drayton Way, Tustin, CA 92680. Phone: (714) 730-6015.

WANG

Wang WP Users Group. Meets 4th Thurs. of each odd month, 6 pm. Newsletter, speakers,information network. Call for meeting place: Steven Hirsh, (213) 255-5515, or write 2858 El Roble Drive., Los Angeles 90041.

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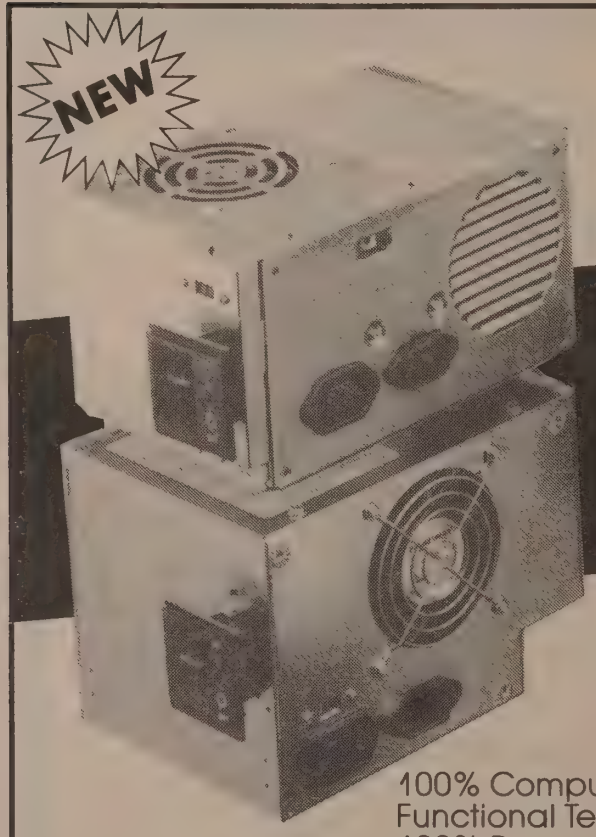
ZENITH

Zenith-Sanyo Users Group meets 10 am every first and third Sunday at 401 S. La Brea Ave., Inglewood, CA 90301. Call Alan Gillen, (213) 674-0318 for information.



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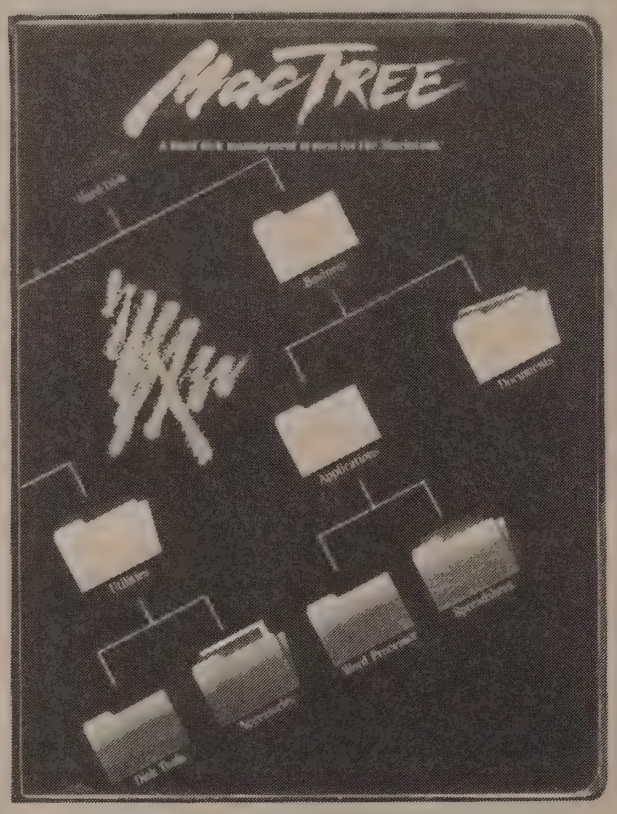

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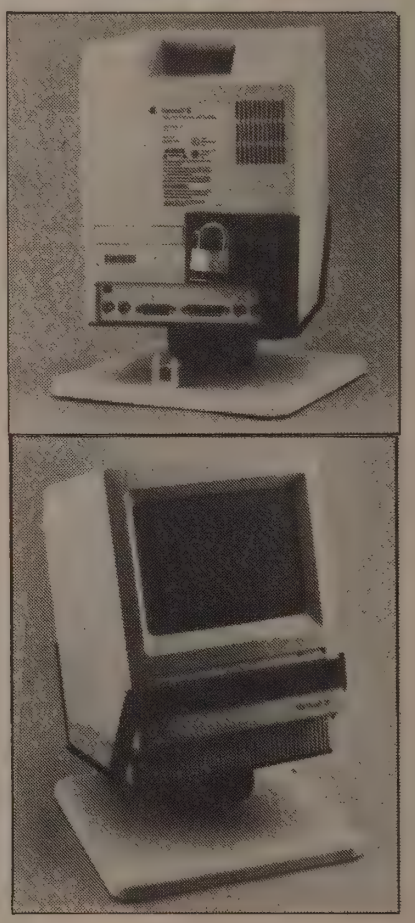

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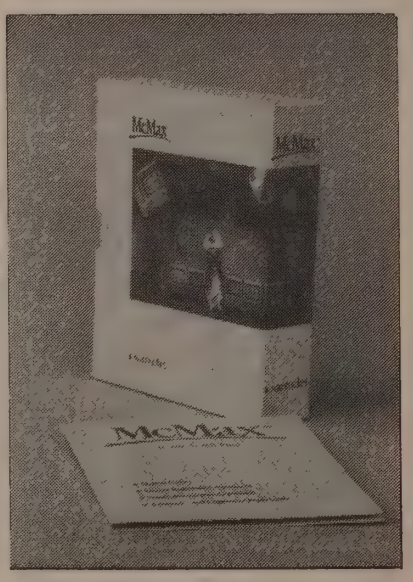

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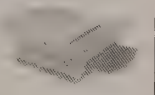

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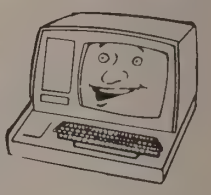

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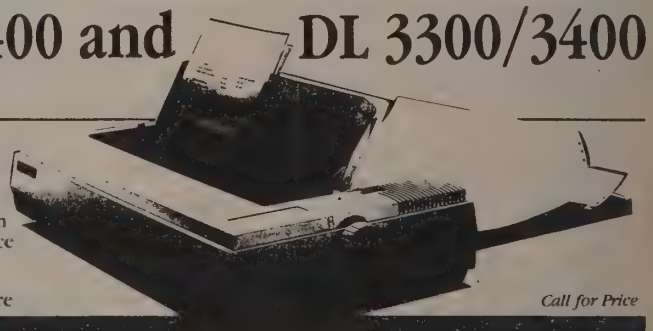

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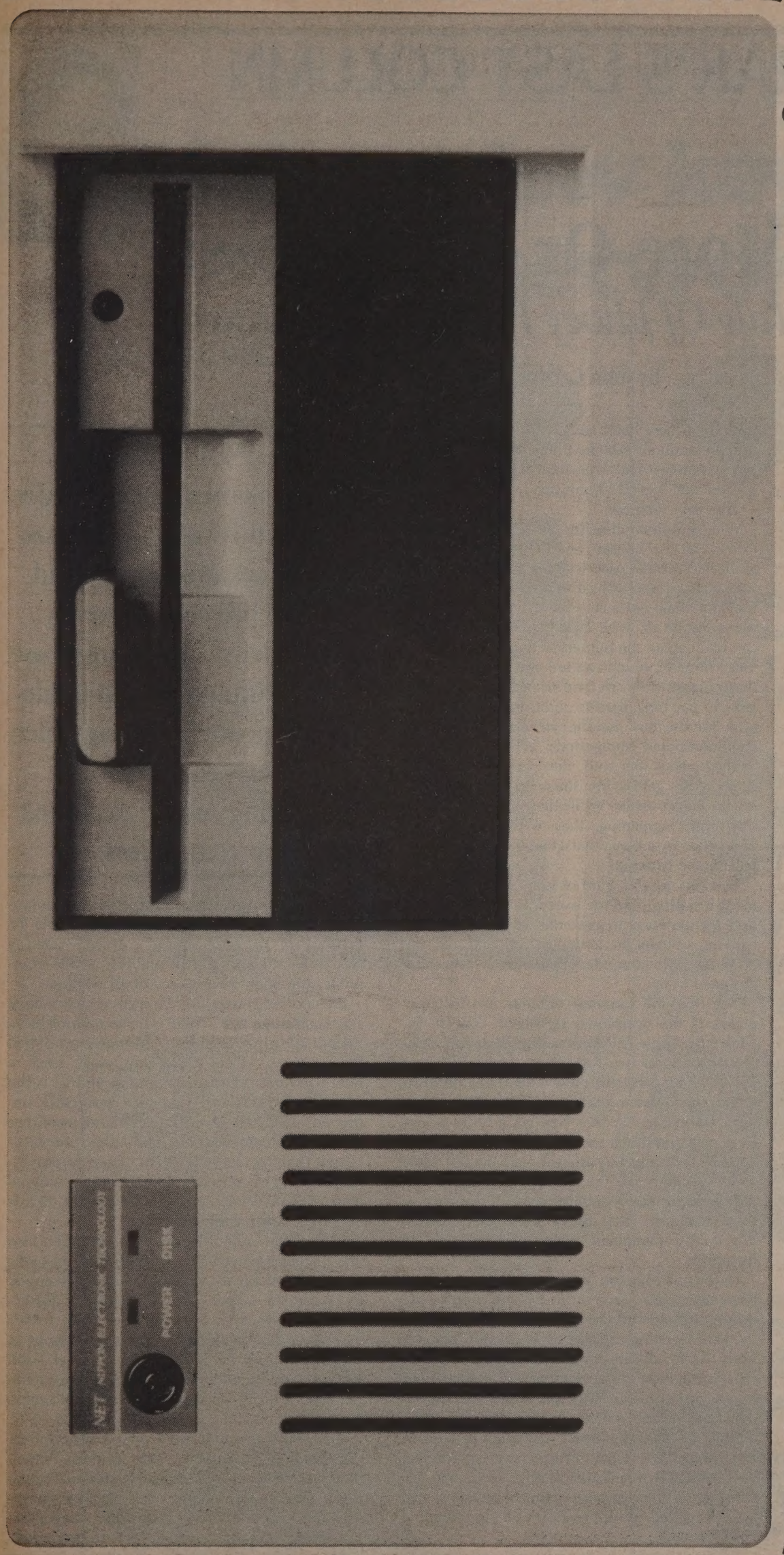

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Much More Or Much Less:

A Curious Tale Of Idiocy From the Top Down

By John C. Dvorak

Executives, law makers, managers and decision makers from all the corners of society are ruining the country and stalling progress because they don't know diddly about computers. The ones who know "just a little" are worse.

Anecdote number one. A friend of mine is an attorney who uses a Macintosh for his small practice. He loves to use a LaserWriter to produce typeset documents. He told me an interesting detail. He can print out the exact copy of certain state-approved legal forms, but legally he isn't allowed to use any but the ones provided by the state. This is to keep shysters from changing a word or two in a common document and palming it off on a sucker and then coming back with "you didn't read the small print." It's easier for my friend to use his digitized version and fill in the blanks on the screen, though, then it is for him to mask out an original and use the LaserWriter to print onto the state provided form. There is no chance of him hitting the blank spaces correctly on the preprinted form. So he ignores the edict and creates his own copies of the state forms. Someone has to be progressive.

Anecdote number two. A recent stay at the Meridien Hotel in Newport Beach brought this idiocy issue home for me. The screwball phone system at the hotel is so high-tech that it can't be used with a computer. You can't slip an RJ-11 jack into the wall socket because an alarm sounds if the phone is unhooked from the wall. You can't tear the phone apart to find connections to hook into because it is a non-standard digital phone system with a host of wires coming in and out which control everything from the descrambler on the TV to the thermostat (no kidding!) in the room. It's an incredible piece of crap. Does it have a modem jack, or any way to hook a modem to it? Nope. So much for high tech phones. When I asked around about the possibility of hooking into the system with a modem, I was told it simply can't be done. Even if I figured that I could use my Kyocera acoustic adapters (which I left home thinking a new hotel such as this would have a functional phone system) I noticed that the dopey phone handset had a peculiar square shape so I couldn't get a good fit anyway.

More irritating than the executive decision to ignore computers or to patronize users, as the home banking systems do, is the executive decision to do things with computers that computers weren't designed to do.

This isn't progress.

Why equipment like this is chosen is a mystery to me. But it *is* chosen, and the real needs of the modern computer user, whether a businessman or hobbyist, are ignored by executives who can't even type, let alone use a computer.

I could go on with anecdote after anecdote. I can bitch about the numerous home banking systems, none of which can tell you anything up to the minute. Most are hard to use, inconvenient, slow to pay bills, hard to audit. In short, they are junk. For the most part the systems initiate no real computer-based transactions. When you talk to bankers about this stuff, they voice a fear about some hacker getting into the main files and ravaging the bank's assets. While there are ways to keep this from happening, they will never be implemented by a bank, that's for sure. So why even have home banking?

You can see this kind of folly everywhere, but more irritating than the executive decision to ignore computers or to patronize users, as the home banking systems do, is the executive decision to do things with computers that computers weren't designed to do.

The first and foremost dubious use for computers is the overblown Dynabook concept invented by Apple Fellow Alan Kay. Kay, like other "visionaries" such as Ted Nelson, perhaps Stewart Brand, and maybe still a few others, sit around all day trying to dream up some neat imaginary uses for a computer. For this they get a lot of praise from men and much swooning from women (perhaps it's the other way around — no matter). Most of us recognize all this as blue sky drivel (fun drivel, but drivel nonetheless) or we recognize it as a substitute idea source when there are no low quality paperback science fiction books to be found.

Unfortunately, too many rum-happy executives take these guys seriously and wap! some dumb project is underway. There are at least six dynabooks being developed as I write this column. As for dumb projects in general, I figure there are over a thousand underway, many fueled by executive use of mind-numbing and libido-boosting cocaine, a drug which reduces the possibility of making correct decisions to zero or less. But these coke-induced projects are so laughable I'll avoid discussing them, and instead mention those simply fueled by ignorance, arrogance and no appreciation of the personal computer.

In this category I suppose I could again include home banking; any teletex system ever invented; software delivery systems where expensive commercial software is transmitted over a phone line

There are at least six dynabooks being developed as I write this column. I figure there are over a thousand dumb projects underway, many fueled by executive use of mind-numbing and libido-boosting cocaine, a drug which reduces the possibility of making correct decisions to zero or less.

to a store; radio broadcasting of software to antennas hooked to the top of the computer; cable TV delivery of software games; software vending machines; and, finally, Dynabook — the computer cum book cum source of all wisdom.

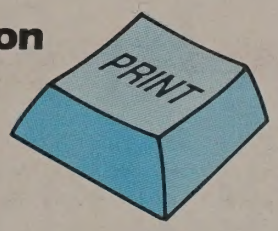
It's not that it wouldn't be neat to have a book sized computer that actually did something more than display in four lines by 10 characters of text the message: APPT. 2 PM root canal. Heck, a note pad does it better. Ignored in all this is the technology itself. All that has drastically improved since the invention of these machines has been memory prices and microprocessor speed. Display technology isn't close to providing the kind of contrast needed to make a dynabook. But that may be besides the point. Is this a realistic use for the computer?

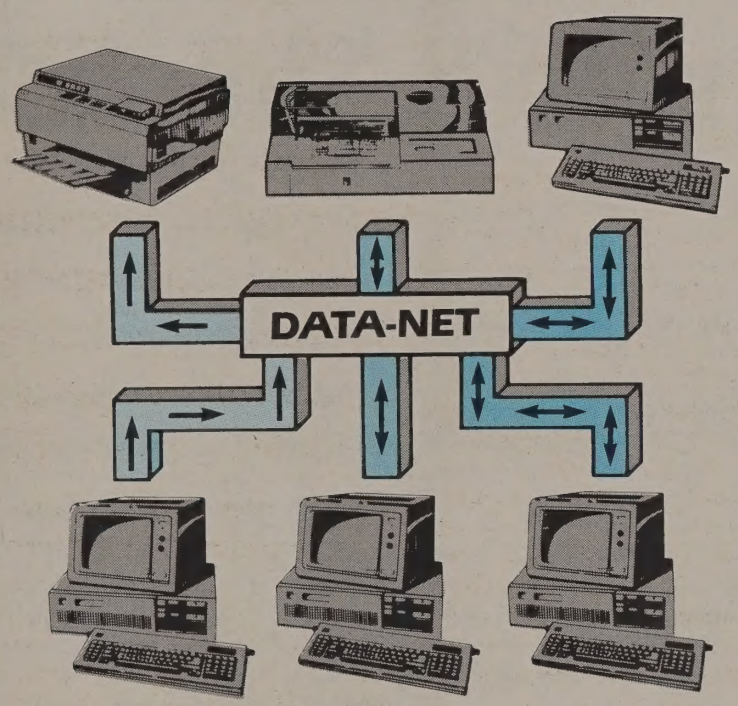
It's not the only silly use. The computer as a note pad or typewriter or scribble board is a joke use dreamed up by visionaries and developed by executive decree. The computer as encyclopedia, newspaper, scrapbook or even artist's easel is a laughable and a pathetic attempt to shoehorn a new technology into the rock solid positions occupied by old and established technologies. I think we should leave the old technologies alone and try something unique.

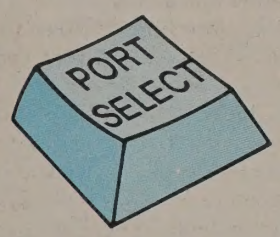
VisiCalc was much more than a simple one-dimensional calculator. The phrase "much more" is the key. Videotex and teletex are "much less" than a newspaper. The on-line encyclopedias are "much less" than a real encyclopedia. Home banking is "much less" than a checkbook and envelope and the mailman. You get the idea. Let's hope some dingbat executives get the picture. I'm afraid they won't. They'll get "much less" too. □

Make a few key moves into networking

Simultaneous Operation

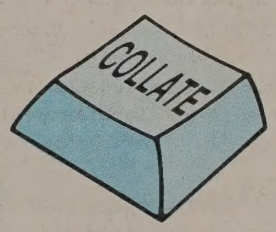






Connect Computer to Computer or Multiple Computers to a Printer

Copy or Collate



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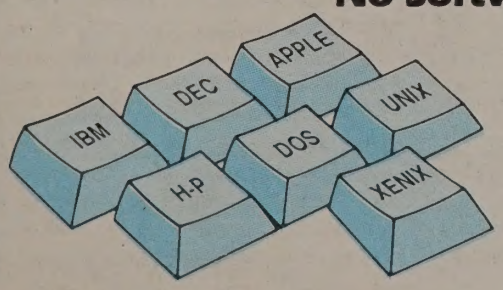
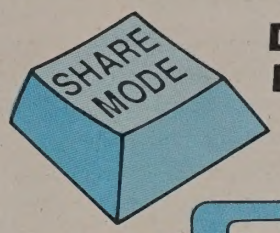
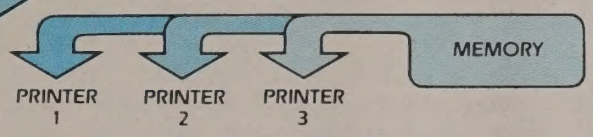




DATA-NET Routes Print Data to the Directed or Next Available Printer



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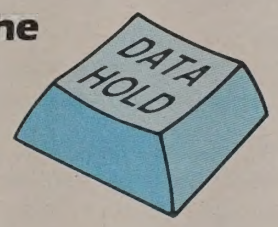

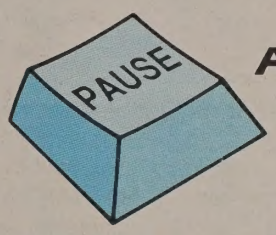

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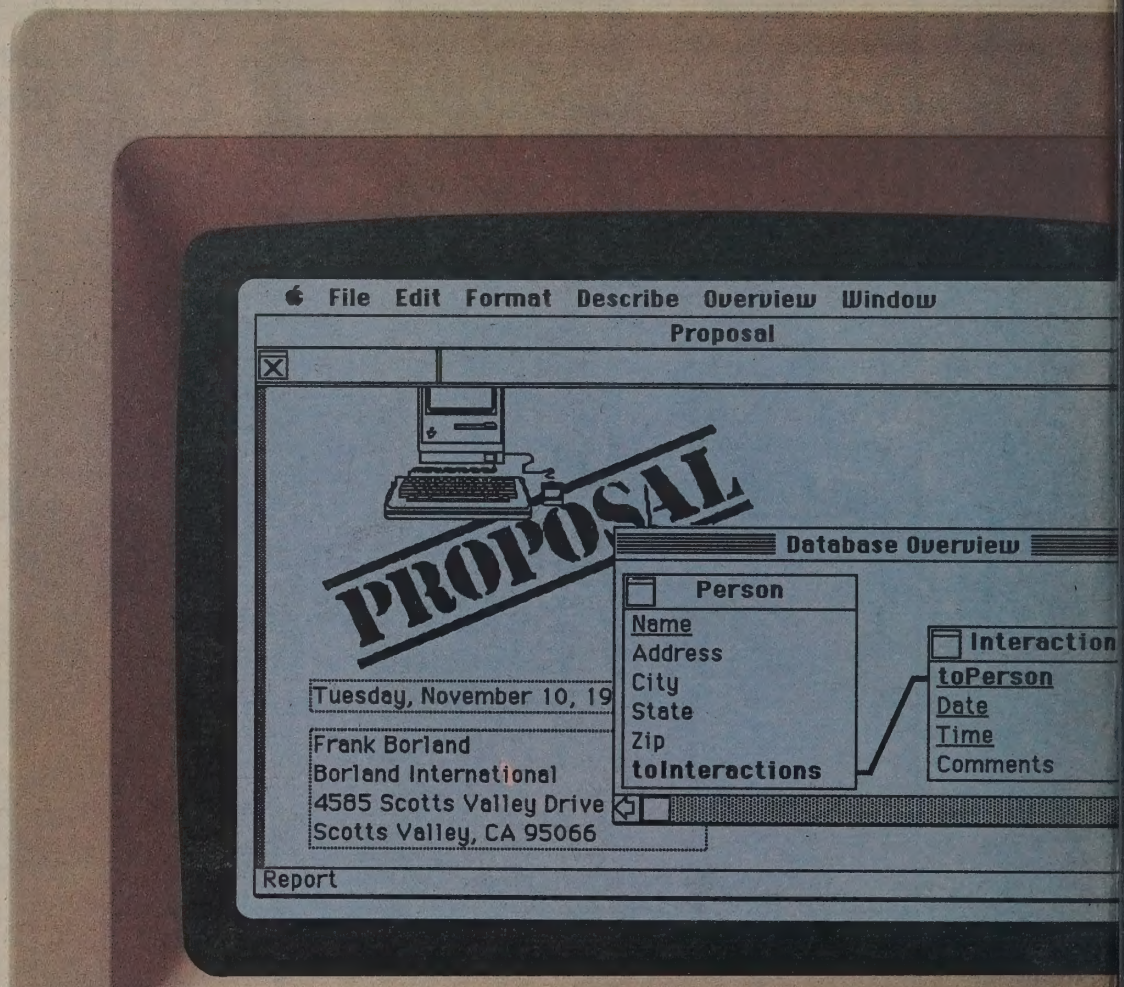

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